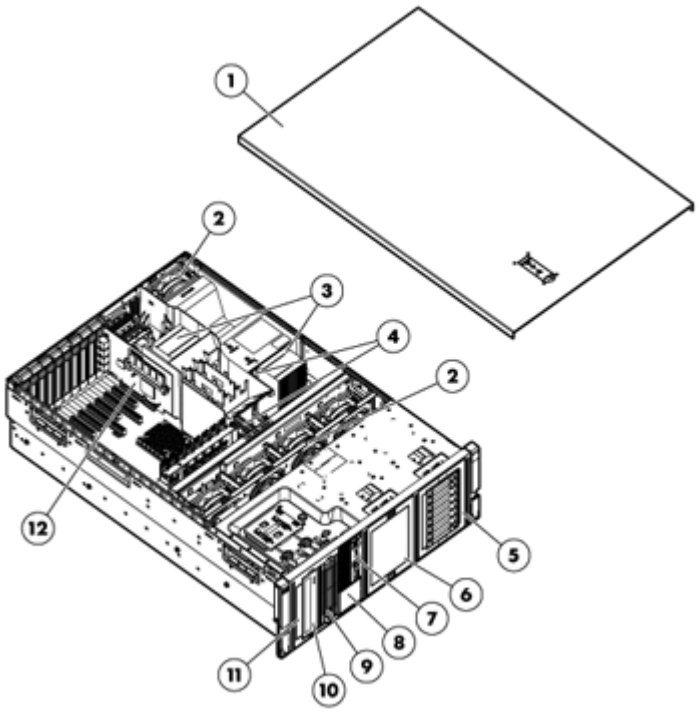
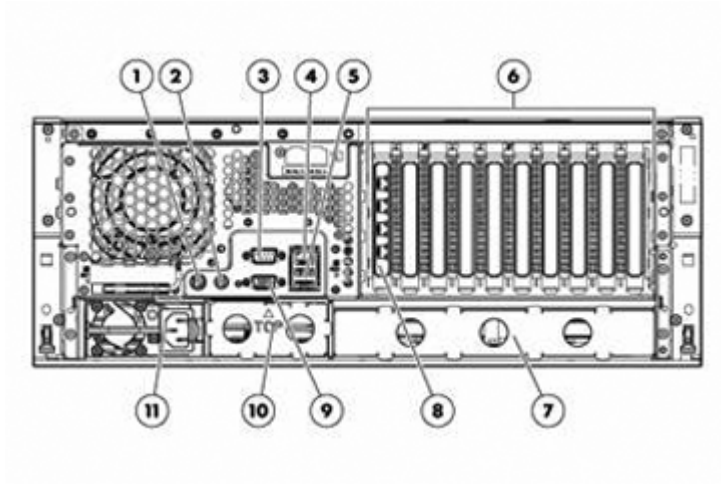
Overview

The next generation of the HP ProLiant ML370 (expandable tower chassis) and the new HP ProLiant DL370 (4U rack optimized chassis) deliver Industry-leading management tools, leading performance, expandability, flexibility and the latest energy efficient technologies. These servers are well-suited for deployment in growing businesses, remote office sites, or datacenters and have been designed to bring you (our customer) the utmost confidence to run your business.

HP ProLiant DL370 G6 (Rack)





Front View:

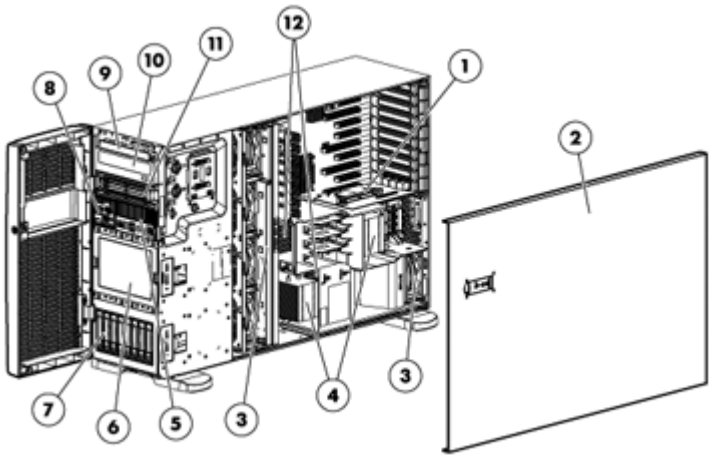
1. Quick removal access panel
2. Three Hot-plug fans (standard) Five (optional)
3. Intel Six or Quad-Core Processor (Performance model includes two processors)
4. Eighteen slots for DDR3 Registered or Unbuffered Memory
5. SAS/SATA drive cage
6. Optional drive cage bay
7. Power on/standby button, video connector and two USB connectors
8. System Insight Display
9. Removal media bay
10. DVD-ROM drive
11. Optional slimline optical drive bay
12. 9 Available PCI-Express Gen2 slots; PCI-X (optional)

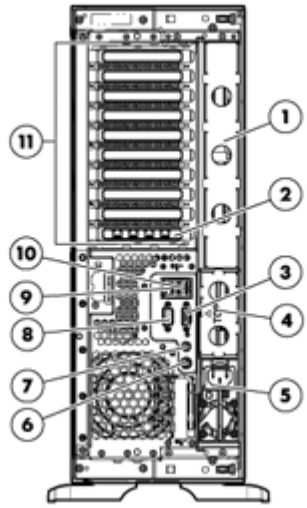
Rear View:

1. Mouse connector
2. Keyboard connector
3. Serial connector
4. iLO 2 connector
5. Two USB connectors
6. 9 Available PCI-Express Gen2 expansion slots; PCI-X (optional)
7. PCI-X Expansion slot riser bay
8. Four NIC connectors
9. Video connector
10. Power supply bay 2
11. Power supply bay 1 (populated)

Overview

HP ProLiant ML370 G6 (Tower)





Front View:

1. 9 Available PCI-Express Gen2 slots; PCI-X (optional)
2. Quick removal access panel - Tool-less access to all system components for easy in rack serviceability
3. Three Hot-plug fans (standard) Five (optional)
4. Intel Six or Quad-Core Processor (Performance model includes two processors)
5. Power on/standby button
6. Optional drive cage bay
7. SAS/SATA drive cage
8. System Insight Display for quick and easy server diagnostics
9. Optional slimline optical drive bay
10. DVD-ROM drive
11. Removal media bay
12. Eighteen slots for DDR3 Registered or Unbuffered Memory

Rear View:

1. PCI-X Expansion slot riser bay
2. Four NIC connectors
3. Video connector
4. Power supply bay 2
5. Power supply bay 1 (populated)
6. Mouse connector
7. Keyboard connector
8. Serial connector
9. iLO 2 connector
10. Two USB connectors
11. 9 Available PCI-Express Gen2 expansion slots; PCI-X (optional)

What's New

- Support for new HP hard drives, UPS and NIC

NOTE: For the Standard Features shipped in the "Factory Integrated Models", please see the "Configuration Information - Factory Integrated Models" section.

Processor
One of the following depending on Model

Six-Core Processors

Intel® Xeon® X5690 (3.46GHz/6-core/12MB/130W, DDR3-1333, HT, Turbo 1/1/1/1/2/2) Processor
Intel® Xeon® X5680 (3.33GHz/6-core/12MB/130W, DDR3-1333, HT, Turbo 1/1/1/1/2/2) Processor
Intel® Xeon® X5675 (3.06GHz/6-core/12MB/95W, DDR3-1333, HT, Turbo 2/2/2/2/3/3) Processor
Intel® Xeon® X5670 (2.93GHz/6-core/12MB/95W, DDR3-1333, HT, Turbo 2/2/2/2/3/3) Processor
Intel® Xeon® X5660 (2.80GHz/6-core/12MB/95W, DDR3-1333, HT, Turbo 2/2/2/2/3/3) Processor
Intel® Xeon® X5650 (2.66GHz/6-core/12MB/95W, DDR3-1333, HT, Turbo 2/2/2/2/3/3) Processor
Intel® Xeon® E5649 (2.53GHz/6-core/12MB/80W, DDR3-1333, HT, Turbo 1/1/1/1/2/2) Processor
Intel® Xeon® E5645 (2.40GHz/6-core/12MB/80W, DDR3-1333, HT, Turbo 1/1/1/1/2/2) Processor

Quad-Core Processors

Intel® Xeon® X5687 (3.60GHz/4-core/12MB/130W, DDR3-1333, HT, Turbo 1/1/2/2) Processor
Intel® Xeon® X5677 (3.46GHz/4-core/12MB/130W, DDR3-1333, HT, Turbo 1/1/2/2/3/3) Processor
Intel® Xeon® X5672 (3.20GHz/4-core/12MB/95W, DDR3-1333, HT, Turbo 2/2/3/3) Processor
Intel® Xeon® X5667 (3.06GHz/4-core/12MB/95W, DDR3-1333, HT, Turbo 2/2/3/3) Processor
Intel® Xeon® E5640 (2.66GHz/4-core/12MB/80W, DDR3-1066, HT, Turbo 1/1/2/2) Processor
Intel® Xeon® E5630 (2.53GHz/4-core/12MB/80W, DDR3-1066, HT, Turbo 1/1/2/2) Processor
Intel® Xeon® E5620 (2.40GHz/4-core/12MB/80W, DDR3-1066, HT, Turbo 1/1/2/2) Processor
Intel® Xeon® W5580 (3.20GHz/4-core/8MB/130W, DDR3-1333, HT, Turbo 1/1/1/2) Processor
Intel® Xeon® X5570 (2.93GHz/4-core/8MB/95W, DDR3-1333, HT, Turbo 2/2/3/3) Processor
Intel® Xeon® X5560 (2.80GHz/4-core/8MB/95W, DDR3-1333, HT, Turbo 2/2/3/3) Processor
Intel® Xeon® X5550 (2.66GHz/4-core/8MB/95W, DDR3-1333, HT, Turbo 2/2/3/3) Processor
Intel® Xeon® E5540 (2.53GHz/4-core/8MB/80W, DDR3-1066, HT, Turbo 1/1/2/2) Processor
Intel® Xeon® E5530 (2.40GHz/4-core/8MB/80W, DDR3-1066, HT, Turbo 1/1/2/2) Processor
Intel® Xeon® E5520 (2.26GHz/4-core/8MB/80W, DDR3-1066, HT, Turbo 1/1/2/2) Processor
Intel® Xeon® E5607 (2.26GHz/4-core/8MB/80W, DDR3-1066) Processor
Intel® Xeon® E5606 (2.13GHz/4-core/8MB/80W, DDR3-1066) Processor
Intel® Xeon® E5506 (2.13GHz/4-core/4MB/80W, DDR3-800) Processor
Intel® Xeon® E5504 (2.00GHz/4-core/4MB/80W, DDR3-800) Processor
Intel® Xeon® E5603 (1.60GHz/4-core/4MB/80W, DDR3-1066) Processor
Intel® Xeon® L5630 (2.13GHz/4-core/12MB/40W, DDR3-1066, HT, Turbo 1/1/2/2) Processor
Intel® Xeon® L5520 (2.26GHz/4-core/8MB/60W, DDR3-1066, HT, Turbo 1/1/2/2) Processor

Dual-Core Processors

Intel® Xeon® E5502 (1.86GHz/2-core/4MB/80W, DDR3-800) Processor
Intel® Xeon® E5603 (1.60GHz/4-core/4MB/80W) Processor

NOTE: Up to 2 processors supported. Performance configurations include two processors. Mixing different processor models is not supported.
NOTE: HT indicates that the processor model supports Intel® Hyper-Threading Technology.
NOTE: Turbo indicates the maximum potential frequency increment when using Intel® Turbo Boost Technology, with 4, 3, 2, and 1 cores active.
NOTE: DDR3 speed is the maximum memory speed of the processor. Actual memory speed may

Standard Features

depend on the quantity and type of DIMMs installed.
NOTE: For the Intel 5600 and 5500 Series, the letter preceding the model number indicates the performance/wattage of the processor. "X" denotes High Performance/Wattage; "E" denotes Enterprise Performance/Wattage (Mainstream); and "L" denotes Lower Wattage.

Cache Memory
One of the following depending on Model

12MB (1 x 12MB) Level 3 cache
8MB (1 x 8MB) Level 3 cache
4MB (1 x 4MB) Level 3 cache
NOTE: Cache size is dependent on processor.

Chipset

Intel® 5520 chipset
NOTE: For more information regarding Intel chipsets, please see the following URL: http://www.intel.com/products/server/chipsets/.

Upgradeability

Upgradeable to two processors

Memory Protection

Advanced ECC
Mirroring mode
Lockstep mode
Online Spare mode

Memory
One of the following depending on Model

Type	DDR3 Registered (RDIMM) or Unbuffered (UDIMM)
Standard (Performance Models)	12GB (6 x 2GB) RDIMM
Standard (Base Models)	6GB (3 x 2GB) RDIMM
Standard (Entry Model)	4GB (2 x 2GB) RDIMM
Maximum (RDIMM)	384GB (12 x 32GB) for Registered Memory configurations
Maximum (UDIMM)	48GB (12 x 4GB) for Unbuffered Memory configurations

NOTE: If only one processor is installed, only half the DIMM slots are available.
NOTE: when populating with the 16GB and 32GB Memory Kits (Quad-Rank), only 12 DIMMs can be populated.
NOTE: Depending on the memory configuration and processor model, the memory speed may run at 1333MHz, 1066MHz, or 800MHz. Please see the Online Memory Configuration Tool at: www.hp.com/go/ddr3memory-configurator.
NOTE: Kits described as LP include Low Power DIMMs. For more information on ProLiant Energy Efficient Features, see: www.hp.com/go/proliant-energy-efficient.

Network Controller

HP NC375i Integrated Quad Port Gigabit Server Adapter

Standard Features

Expansion Slots

NOTE: Nine (9) available PCI-Express Gen2 expansion slots to provide you with the latest I/O performance; PCI-X (optional).

Expansion Slots #	Technology	Bus Width	Connector Width	Form Factor	Notes
1	PCIe	x4	x8	Half length, full height	
2	PCIe2	x4	x8	Full Length/Full Height	
3	PCIe2	x16	x16	Full Length/Full Height	
4	PCIe2	x4	x8	Full Length/Full Height	
5	PCIe2	x4	x8	Full Length/Full Height	
6	PCIe2	x8	x16	Full Length/Full Height	
7	PCIe2	x4	x8	Full Length/Full Height	
8	PCIe2	x16	x16	Full Length/Full Height	
9	PCIe2	x4	x8	Full Length/Full Height	
10	PCIe2	X8	X8	Half length, full height	Utilized by NIC controller "Use the correct model number for the NIC"
11	PCI-X	See note	See note	Full Length/Full Height	(optional) *Up to 64bits/133Mhz speed when only one device install in slot 11 and 12 *up to 64bits/100Mhz speed when both slot 11 and 12 are utilized.
12	PCI-X	See note	See note	Full Length/Full Height	(optional)

*Default bus assignment. Inserting cards with PCI bridges may alter the actual bus assignment number.
*Only PCI-X support is available in slot 4, supporting PCI-X cards. PCI legacy cards are not supported.

Standard Features

Storage Controller One of the following depending on Model	Entry Models	HP Smart Array P410i/256 MB Controller (RAID 0/1/1+0/5/5+0) NOTE: Entry Models available for ML370 G6 models only.
	Base Models	HP Smart Array P410i/256 MB Controller (RAID 0/1/1+0/5/5+0)
	Performance Models (487790-001 and 576411-001 Models)	HP Smart Array P410i/512 MB BBWC Controller (RAID 0/1/1+0/5/5+0/6)
	Performance Model (595166-001 Model)	HP Smart Array P410i/1G FBWC Controller (RAID 0/1/1+0/5/5+0/6)
	Available upgrades: 256MB, 512MB with BBWC, 512MB with FBWC, 1G with FBWC, Battery kit upgrade (for the 256MB cache), and Smart Array Advanced Pack (SAAP).	

Internal Storage Devices	Diskette Drive	None Standard
	Optical Drive	SATA DVD ROM (standard in all models)
	Hard Drives	None Standard
	Hard Drive Bays	(8) SFF SAS/SATA Hard Drive Bays Standard Up to (24) SFF SAS/SATA with optional drive cages (up to three 8 SFF drive cage can be installed)
	NOTE: Two open half-height media bays available for tape drives, optical media, optional SAS HDD cage.	

Maximum Internal Storage	Hot Plug SFF SAS	24TB	24 x 1TB
	Hot Plug LFF SAS	42TB	14 x 3TB
	Hot Plug SFF SAS SSD	19.2TB	24 x 800GB
	Hot Plug SFF SATA SSD	9.6TB	24 x 400GB
	Hot Plulg LFF SATA SSD	5.6TB	14 x 400GB
	NOTE: Up to 24 small form factor (SFF) or 14 large form factor (LFF) hot-plug drive bays to support Serial-attached SCSI (SAS) and Serial ATA (SATA) drives.		

Interfaces	Serial	1 (rear)
	Video	1 (+1 front video on rack models)
	Network RJ-45 (Ethernet)	4 (rear)
	ILO 2.0 remote management port	1
	Keyboard	1
	Pointing Device (Mouse)	1
	SD slot	1
	USB 2.0 Ports	5 (2 on the rear, 2 on the front, 1 internal) NOTE: Please see the following URL for additional information regarding USB support: http://h18004.www1.hp.com/products/servers/platforms/usb-support.html
	Dedicated USB 2.0 Port	1 (available for DAT USB tape connectivity) NOTE: Internal USB ports are optimal for the attachment of HP DAT USB Internal Tape Drives

Standard Features

Industry Standard Compliance	ACPI V2.0 Compliant PCI-Express Gen2 PXE Support WOL Support Microsoft® Logo certifications USB 2.0 Support SMBIOS 2.6.1
Server Power Cords	High voltage power cord ships standard with all part numbers. NOTE: ProLiant DL servers no longer ship standard with NEMA power cords (187335-001) that allow connection to 110V US wall outlets in a home or office. ProLiant DL servers are primarily connected to PDU's in data center racks so they now ship standard with only a PDU power cord (416151-B21). If a user wishes to power a ProLiant DL server using a 110V receptacle (NEMA-15), the above NEMA power cord must be ordered separately.
Common Slot Power Supplies	The Common Slot (CS) Power Supply provides the customer with commonality in power supplies across multiple platforms to save on the cost of spares and allows HP to offer multiple power solutions to fit the customers' needs. Many HP ProLiant Servers come with or are compatible with high-efficiency HP CS Power Supplies. These power supplies are designed to provide high-efficiency power without degrading performance of the ProLiant server. All HP Common Slot power supplies are hot-plug and meet the requirements for UL and CE Mark Compliance. It is highly recommended that you use the HP Power Advisor in defining the "Right-Size" power supply for your needs. HP's ProLiant Common Slot Power supplies (460W & 750W) meet multiple Energy Efficiency Initiatives including Climate Savers Computing Initiative (CSCI) GOLD and ECOS Consulting/80PLUS GOLD certifications. The HP 1200W CS Power Supply meets multiple Energy Efficiency Initiatives including CSCI Silver and ECOS Consulting/80PLUS Silver certifications. Redundant Power: Optional (1+ 1 redundant) power supplies can be purchased through power supply option kits (see Redundant Options for part numbers).
System Fans	(3) Hot Plug fans ship standard NOTE: For full redundancy you can purchase the HP ML370 G6 and DL370 G6 Redundant Fan Kit; PN: 508107-B21. Under the redundant fan configuration, only a single hot-pluggable fan can be replaced without having to power down the server.

Standard Features

Operating Systems and Virtualization Software Support for ProLiant Servers	Microsoft Windows Server Red Hat Enterprise Linux (RHEL) SUSE Linux Enterprise Server (SLES) Oracle Solaris VMware HP Citrix Essentials for XenServer NOTE: For more information on HP's Certified and Supported ProLiant Servers for OS and Virtualization Software and latest listing of software drivers available for your server including how to purchase from HP, please visit our OS Support Site at: http://www.hp.com/go/ossupport and our driver download page http://www.hp.com/support/ML370G6.
Required Cabling	For storage device cabling information, refer to the HP ProLiant ML/DL370 G6 Server User Guide: http://www.hp.com/support/DL_ML370G6_UG_en
Graphics	Integrated ATI RN50, 64 MB video standard • 16 bit color: maximum resolution of 1600 x 1200 • 32 bit color: maximum resolution of 1280 x 1024 NOTE: Maximum resolution available via iLO 2 remote console is 1280 x 1024. Graphics Cards: Supports up to 2 x 225W Graphic Cards via HP ML370 G6 and DL370 G6 Graphic Card Cable Kit, 537721-B21 NOTE: Supports HP Quadro 4000 PCIe Graphics Kit (655933-B21) and HP Quadro 6000 PCIe Graphics Kit (655935-B21), selection of which requires HP 1200W CS Slvr Ht Plg Pwr Supply Kit NOTE: HP Quadro 6000 PCIe Graphics Kit (655935-B21) is a dual slot graphics kit and occupies 2 slot NOTE: Please see the HP Power Advisor for estimated power consumption of your individual system configuration prior to installing GPUs. The HP Power Advisor is located at: www.hp.com/go/hppoweradvisor. NOTE: 2 PCIe Gen2 x16 (mechanical/electrical); 1 PCIe Gen2 x16 (mechanical) x8 (electrical)
Form Factor	4U Tower Chassis and 4U Rack Optimized Chassis (7 in, 17.8 cm) NOTE: Redesigned 4U Tower Chassis and the new 4U Rack Optimized Chassis to better meet our customer's density requirements.

Standard Features

HP Insight Software	HP Insight Foundation	Managing the growing number of servers can be complex and expensive for your organization. IT managers need to address changing business needs with tools that meet the challenges of managing today's complex Datacenters. HP provides management solutions that are designed to simplify a server's installation, configuration and maintenance throughout the entire server lifecycle. This provides the customer with higher levels of operational efficiency and highly reliable systems: www.hp.com/go/foundation. The foundation pack includes: • HP SmartStart • HP Management DVD • HP ProLiant Smart Update Firmware DVD SmartStart version supported (minimum): SmartStart 8.20 http://www.hp.com/servers/smartstart NOTE: In an effort to support reducing our environmental impact, the HP Insight Foundation Suite for ProLiant media will be available as a selectable option for this server at time of order of a CTO SKU. This will allow customers to order the number of media kits that best meet their needs and eliminate receiving unnecessary duplicate media.
	HP Integrated Lights-Out (iLO)	HP Integrated Lights-Out (iLO) simplifies server setup, health monitoring, power and thermal control, and lights-out remote administration of ProLiant ML, DL, and BL servers. HP iLO functions without additional software and can be accessed from any location via a web browser. HP iLO works hand-in-hand with HP Systems Insight Manager, Insight Control suites, and Insight Dynamics for ProLiant, helping customers unleash the value of the ProLiant platform and deliver the highest possible quality of IT service. For more information, visit: www.hp.com/go/iLO

Security	Power-on password Keyboard password Diskette drive control Diskette boot control QuickLock, Network Server Mode Serial interface control Administrator's password

Standard Features

Warranty	This product is covered by a global limited warranty and supported by HP Services and a worldwide network of HP Authorized Channel Partners resellers. Hardware diagnostic support and repair is available for three years from date of purchase. Support for software and initial setup is available for 90 days from date of purchase. Enhancements to warranty services are available through HP Care Pack services or customized service agreements. Hard drives have either a one year or three year warranty; refer to the specific hard drive QuickSpecs for details. NOTE: Server Warranty includes 3-Year Parts, 3-Year Labor, 3-Year Onsite support with next business day response. Warranty repairs may be accomplished through the use of Customer Self Repair (CSR) parts. These parts fall into two categories: 1) Mandatory CSR parts are designed for easy replacement. A travel and labor charge will result when customers decline to replace a Mandatory CSR part; 2) Optional CSR parts are also designed for easy replacement but may involve added complexity. Customers may choose to have HP replace Optional CSR parts at no charge. Additional information regarding worldwide limited warranty and technical support is available at: http://h18004.www1.hp.com/products/servers/platforms/warranty/index.html

Optional Features

HP Insight management software	HP Insight Control	HP Insight Control, a product option, delivers essential infrastructure management that can help save time and money by making it easy to deploy, migrate, monitor, remote control, and optimize your IT infrastructure through a single, simple management console. Two versions of Insight Control are available, to serve environments requiring either a Linux-based or a Windows-based central management server: HP Insight Control for Linux, and HP Insight Control. See www.hp.com/go/insightcontrol HP Insight Control includes one year of 24 x 7 HP Software Technical Support and Update Service ensuring rapid access to HP support staff and proactive delivery of software updates. For more information about this service, please visit: http://www.hp.com/services/insight.
	HP Insight Dynamics for ProLiant	HP Insight Dynamics for ProLiant, a product option, is advanced infrastructure management software that enables IT staff to instantly adjust their environments to meet dynamic business demands by provisioning, optimizing and protecting complex infrastructure in minutes. It's a powerful toolkit, integrated-by-design, that accelerates complex technology projects and simplifies daily operations, transforming data center economics. With Insight Dynamics IT professionals can plan capacity and power continuously, balance workloads across physical and virtual resources, and ensure cost-effective high availability. It also enables IT organizations to provision infrastructure consistently and automatically from pools of shared resources using a self-service portal. Resources provisioned can range from a single virtual machine to complex multi-tier environments and their associated physical and virtual resource requirements. In addition to the previous functional benefits, it also provides a cost-effective disaster recovery for physical and virtual environments that works with HP Continuous Access software for both the Enterprise Virtual Array and the XP storage array allowing application environments to be reactivated in minutes with the touch of a button to a remote location. NOTE: For more information, visit: http://www.hp.com/go/insightdynamics

Optional Features

High Performance Clusters	HP Cluster Platforms	HP Cluster Platforms are specifically engineered, factory-integrated large-scale ProLiant clusters optimized for High Performance Computing, with a choice of servers, networks and software. Operating system options include specially priced offerings for Red Hat Enterprise Linux and SUSE Linux Enterprise Server, as well as Microsoft Windows HPC Server. A Cluster Platform Configurator simplifies ordering. http://www.hp.com/go/clusters
	HP HPC Interconnects	High Performance Computing (HPC) interconnect technologies are available for this server as part of the HP Cluster Platform portfolio. These high-speed InfiniBand and Gigabit interconnects are fully supported by HP when integrated within an HP cluster. Flexible, validated solutions can be defined with the help of configuration tools. http://www.hp.com/techservers/clusters/ucp/index.html
	HP Cluster Management Utility	HP Cluster Management Utility (CMU) is an HP-licensed and HP-supported suite of tools that are used to manage large-scale Linux ProLiant systems. CMU includes software for the centralized provisioning, management and monitoring of nodes. CMU makes the administration of clusters user friendly, efficient, and effective. http://www.hp.com/go/cmu
	HP HPC Linux Value Pack	HP HPC Linux Value Pack (Value Pack) is an HP-licensed and HP-supported specially priced software bundle for the development and deployment of applications on HPC Cluster Platforms. Value Pack includes the Platform HPC Enterprise Edition suite of tools including the LSF workload scheduler, the HP-MPI parallelization library. Also included are the HP Unified Parallel C compiler and the HP Shmem library, as well as the execution environments for the libraries and compiler. HP HPC Linux Value Pack

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Factory Express Portfolio for Servers and Storage

HP Factory Express offers configuration, customization, integration and deployment services for HP servers and storage products. Customers can choose how their factory solutions are built, tested, integrated, shipped and deployed.

Factory Express offers service packages for simple configuration, racking, installation, complex configuration and design services as well as individual factory services, such as image loading, asset tagging, and custom packaging. HP products supported through Factory Express include a wide array of servers and storage: HP Integrity, HP ProLiant, HP ProLiant Server Blades, HP BladeSystem, HP 9000 servers as well as the MSAxxxx, VA7xxx, EVA, XP, rackable tape libraries and configurable network switches.

For more information on Factory Express services for your specific server model please contact your sales representative or go to: http://www.hp.com/go/factory-express.

HP Enterprise Configurator

The HP eConfigure Enterprise Configurator now provides factory default racking for our HP hardware portfolio. This approach is aligned with our strategic direction to meet the needs and expectations of our valued customers. If you require "custom" rack configuration, please contact HP's Customer Business Center or an Authorized Partner for assistance. http://www.hp.com/products/configurator

Service and Support

HP Technology Services for Industry Standard Servers and BladeSystem
Capitalizing on HP ProLiant server and HP BladeSystem capabilities requires a service partner who understands your increasingly complex business technology environment. That's why it makes sense to team up with the people who know HP infrastructure hardware and software best - the experienced professionals at HP Services.

What HP ProLiant and BladeSystem Services can do for you
HP ProLiant and BladeSystem Services can help you design, deploy, test, integrate, support, and manage IT and infrastructure solutions. This way, HP proposes services solutions that include more than just uplift of base warranty. You can get the support you need by choosing from one of a number of service packaged solutions we have designed to address wider set of customer support needs:.

HP Technology Services meets business challenges with services offered in three packages - Optimized Care Package, Standard Care Package, and Basic Care Package - available for each product group. Such packaged solutions enable customers to optimize technology operations, minimize risk and drive better business outcomes with easy-to-buy, easy-to-use scalable support packages for servers, storage, networking and software.

Optimized Care

Optimized Care Package: Supports maintaining servers at optimum performance availability

HP ProLiant Server Hardware Installation
Provides for the basic hardware installation of HP branded servers, storage devices and networking options to assist you in bringing your new hardware into operation in a timely and professional manner http://h20195.www2.hp.com/V2/GetPDF.aspx/5981-9356EN

HP Installation and Startup for Insight Control Software
Provides for the deployment and basic configuration of HP Insight Control on HP ProLiant ML and DL series servers or HP BladeSystem servers http://h20195.www2.hp.com/v2/GetPDF.aspx/4AA0-9972ENW.pdf

3-Year HP Critical Advantage
Provides end-to-end infrastructure support solution for business critical applications running on virtualized/x86 infrastructures, enabling the customers to cost effectively build, operate, and continuously improve their IT environment
http://h20195.www2.hp.com/V2/GetDocument.aspx?docname=4AA3-1772ENW

Additional Services: Microsoft or Linux or VMware education courses + Facility & technology environmental assessment services + Energy Efficiency Design, Factory Express

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Service and Support

Standard Care	Standard Care Package: Package that maintains high level of server availability HP ProLiant Server Hardware Installation Provides for the basic hardware installation of HP branded servers, storage devices and networking options to assist you in bringing your new hardware into operation in a timely and professional manner http://h20195.www2.hp.com/V2/GetPDF.aspx/5981-9356EN HP Installation and Startup for Insight Control Software Provides for the deployment and basic configuration of HP Insight Control on HP ProLiant ML and DL series servers or HP BladeSystem servers http://h20195.www2.hp.com/v2/GetPDF.aspx/4AA0-9972ENW.pdf 3-Year HP 6 hour Hardware Support Onsite Call-to-Repair Service Provides an IT manager with a team of support specialists who will quickly begin troubleshooting the system to help return the hardware to operating condition within 6 hours of the initial service request to the HP Global Solution Center http://h20195.www2.hp.com/V2/GetPDF.aspx/5982-6547EN.pdf 3-Year , HP 24x7 Software Support for Insight Control Provides for the deployment and basic configuration of HP Insight Control on HP ProLiant ML and DL series servers or HP BladeSystem servers http://h20195.www2.hp.com/V2/GetPDF.aspx/5981-6645EEE.pdf Additional Services: Software OS (Microsoft, Linux (SUSE/Red Hat) & VMware Installation & Start Up, and Software Support; Install and Startup Services for Insight Control; Microsoft or Linux or VMware education courses; +30 Proactive Select Credits, Factory Express
Basic Care	Basic Care Package: delivers minimum recommended support service level HP ProLiant Server Hardware Installation Provides for the basic hardware installation of HP branded servers, storage devices and networking options to assist you in bringing your new hardware into operation in a timely and professional manner http://h20195.www2.hp.com/V2/GetPDF.aspx/5981-9356EN 3-Year HP 24x7 4 hour Response, Hardware Support Onsite Service Provides for the deployment and basic configuration of HP Insight Control on HP ProLiant ML and DL series servers or HP BladeSystem servers http://h20195.www2.hp.com/v2/GetPDF.aspx/4AA0-9972ENW.pdf Additional Services: Software OS (Microsoft, Linux (SUSE/Red Hat) & VMware Installation & Start Up and Software Support); +10 Proactive Select Credits, Factory Express
Insight Remote Support	The packages include HP Insight Remote Support that uses proven technology to deliver secure, reliable 24x7 remote monitoring, diagnoses, and problem resolution. It is available at no additional cost to all warranty, HP Care Pack Service, and service agreement customers.
For more information	To learn more on HP ProLiant servers and HP BladeSystem servers, please contact your HP sales representative or HP Authorized Channel Partner. Or visit: http://www.hp.com/services/proliant

Pre-configured Models

NOTE: For the Standard Features shipped in the "Factory Integrated Models", please see the "Configuration Information - Factory Integrated Models" section.
NOTE: Pre-configured models ship with the configurations below. Options can be selected from the Core or Additional options section of this QuickSpecs.
NOTE: HP does not allow factory integration of options into pre-configured models. Any additional options purchased will be shipped separately.
NOTE: If you desire a custom configuration please see "Configuration Information - Factory Integrated Models" section of this QuickSpecs.

Base Rack Models

HP ProLiant DL370 G6 E5645 1P 6GB-R P410i/512 BBWC 8 SFF 750W PS Base Server
625590-001

Processor	(1) Intel® Xeon® E5645 (2.40GHz/6-core/12MB/80W, DDR3-1333, HT, Turbo 1/1/1/1/2/2) Processor
Cache Memory	12MB (1 x 12MB) L3 cache
Memory	6GB (3 x 2GB) PC3-10600 (DDR3-1333) Registered DIMMs NOTE: Total of 18 DIMM slots.
Network Controller	HP NC375i Integrated Quad Port Gigabit Server Adapter
Storage Controller	HP Smart Array P410i/512MB BBWC Controller
Hard Drive	None ship standard
Internal Storage	(8) SFF SAS/SATA HD Bays (Standard); Up to (24) SFF SAS/SATA with optional drive cage (up to three 8 SFF drive cage can be installed
Optical Drive	SATA DVD ROM
Power Supply	(1) HP 750W Common Slot High Efficiency Power Supply Kit (hot plug, redundancy optional)
Fans	(3) Hot Plug Fans
Form Factor	4U Rack
Warranty	Server Warranty includes 3-Year Parts, 3-Year Labor, 3-Year Onsite support with next business day response

Performance Rack Models

HP ProLiant DL370 G6 X5650 2P 12 GB-R P410i/1GB FBWC 8 SFF 750W RPS Perf IC Svr
595166-001

Processor	(2) Intel® Xeon® X5650 (2.66GHz/6-core/12MB/95W, DDR3-1333, HT, Turbo 2/2/2/2/3/3) Processors
Cache Memory	12MB L3 cache
Memory	12GB (6 x 2GB) PC3-10600 (DDR3-1333) Registered DIMMs NOTE: Total of 18 DIMM slots.
Network Controller	HP NC375i Integrated Quad Port Gigabit Server Adapter
Storage Controller	HP Smart Array P410i/1GB FBWC Controller
Hard Drive	None ship standard
Internal Storage	(8) SFF SAS/SATA HD Bays (Standard); Up to (24) SFF SAS/SATA with optional drive cage (up to three 8 SFF drive cage can be installed)
Optical Drive	SATA DVD ROM
Power Supply	(2) HP 750W Common Slot High Efficiency Power Supply Kits (hot plug, redundant)
Insight Control	HP Insight Control No Media single server license, including 1 year of 24x7 Technical Support and Updates

Pre-configured Models

Fans	(5) Fully Redundant Hot Plug Fans
Form Factor	4U Rack
Warranty	Server Warranty includes 3-Year Parts, 3-Year Labor, 3-Year Onsite support with next business day response

Base Tower Models

HP ProLiant ML370 G6 E5649 1P 6GB-R P410i/512 BBWC 8 SFF 750W PS Base Server
625589-001

Processor	(1) Intel® Xeon® E5649 (2.53GHz/6-core/12MB/80W, DDR3-1333, HT, Turbo 1/1/1/1/2/2) Processor
Cache Memory	12MB (1 x 12MB) L3 cache
Memory	6GB (3 x 2GB) PC3-10600 (DDR3-1333) Registered DIMMs NOTE: Total of 18 DIMM slots.
Network Controller	HP NC375i Integrated Quad Port Gigabit Server Adapter
Storage Controller	HP Smart Array P410i/512MB BBWC Controller
Hard Drive	None ship standard
Internal Storage	(8) SFF SAS/SATA HD Bays (Standard); Up to (24) SFF SAS/SATA with optional drive cage (up to three 8 SFF drive cage can be installed)
Optical Drive	SATA DVD ROM
Power Supply	(1) HP 750W Common Slot High Efficiency Power Supply Kit (hot plug, redundancy optional)
Fans	(3) Hot Plug Fans
Form Factor	4U Tower
Warranty	Server Warranty includes 3-Year Parts, 3-Year Labor, 3-Year Onsite support with next business day response

Entry Tower Models

HP ProLiant ML370 G6 E5620 1P 4GB-R P410i/256 8 SFF 460W PS Entry Server
625591-001

Processor	(1) Intel® Xeon® E5620 (2.40GHz/4-core/12MB/80W, DDR3-1066, HT, Turbo 1/1/2/2) Processor
Cache Memory	12MB (1 x 12MB) L3 cache
Memory	4 GB (2 x 2 GB) PC3-10600 (DDR3-1333) Registered DIMMs NOTE: Total of 18 DIMM slots.
Network Controller	HP NC375i Integrated Quad Port Gigabit Server Adapter
Storage Controller	HP Smart Array P410i/256MB Controller
Hard Drive	None ship standard
Internal Storage	(8) SFF SAS/SATA HD Bays (Standard); Up to (24) SFF SAS/SATA with optional drive cage (up to three 8 SFF drive cage can be installed)
Optical Drive	SATA DVD ROM
Power Supply	(1) HP 460W HE 12V Hot Plug AC Power Supply Kit (hot plug, redundancy optional)
Fans	(3) Hot Plug Fans
Form Factor	4U Tower
Warranty	Server Warranty includes 3-Year Parts, 3-Year Labor, 3-Year Onsite support with next business day response

Smart Buys

The ProLiant Smart Buy program offers a collection of promotional server and option products that are configured with SMB in mind, offered at discounted prices, and positioned for quick delivery. Smart Buy server offers are available for a limited time only.

S-Buy ML370G6 E5620 4GB SFF Server 652482-S01	Processor	(1) Intel® Xeon® Processor E5620 (2.40 GHz, 12MB L3 Cache, 80W, DDR3-1066, HT, Turbo 1/1/2/2)
	Cache Memory	12MB (1 x 12MB) L3 cache
	Memory	4 GB (1x4GB 1Rx4) PC3-10600 (DDR3-1333) Registered DIMMs
	Network Controller	HP NC375i Integrated Quad Port Multifunction Gigabit Server Adapter
	Storage Controller	HP Smart Array P410i/512MB BBWC Controller
	Hard Drive	None ship standard
	Internal Storage	Up to 8 SFF standard, up to 24 SFF with 2 additional drive cages
	Optical Drive	SATA DVD RW
	Power Supply	(1) HP 460W Hot Plug Power Supply Kit (hot plug, redundancy optional)
	Fans	(3) Hot Plug Fans
	Form Factor	4U Tower
	Warranty	Server Warranty includes 3-Year Parts, 3-Year Labor, 3-Year Onsite support with next business day response

DL370G6 E5649 8GB SFF Server 654080-S01	Processor(s)	(2) Intel® Xeon® Processor E5649 (2.53 GHz, 80W, DDR3-1333, HT, Turbo 1/1/1/1/2/2)
	Cache Memory	12MB Level 3 cache
	Memory	8 GB (2x 4GB 1Rx4 PC3-10600R-9 Kit)
	Network Controller	NC375i Integrated Quad Port Multifunction Gigabit Server Adapter
	Storage Controller	Smart Array P410i/512MB BBWC
	Hard Drive	None included
	Internal Storage	Up to 8 SFF standard, up to 24 SFF with 2 additional drive cages
	Optical Drive	None included
	Power Supply	(2) HP 460W HE Hot Plug AC Power Supply
	Fans	(3) standard Hot Plug fans, 5 total Hot Plug fans supported (with addition of Redundant Fan Kit)
	Form Factor	4U Rack
	Warranty	Server Warranty includes 3-Year Parts, 3-Year Labor, 3-Year Onsite support with next business day response

NOTE: This section lists some of the steps required to configure a Factory Integrated Model. To ensure only valid configurations are ordered, HP recommends the use of an HP approved configurator. Contact your local sales representative for information on configurable product offerings and requirements.
NOTE: Configure-to-order (CTO) servers must start with a CTO Chassis.
NOTE: FIO indicates that this option is only available as a factory installable option.

Step 1: Base Configuration (choose one of the following configurable models)

HP Models

HP ProLiant ML370 G6 Tower Models

HP ProLiant ML370 G6 SFF Configure-to-order Tower Server — 483880-B21
NOTE: Supports Small Form Factor (SFF) - 2.5" Drives

Factory Integrated Model ships with:

HP NC375i Integrated Quad Port Gigabit Server Adapter
Integrated Lights-Out embedded
HP Smart Array P410i/Zero Memory Controller
(8) Hot-Plug (SFF) SAS/SATA Drive Bays
(9) available PCI-e Gen2 slots
(5) USB ports
(3) Hot Plug Fans
Tower Form Factor

HP ProLiant ML370 G6 LFF Configure-to-order Tower Server — 483879-B21
NOTE: Supports Large Form Factor (LFF) - 3.5" Drives

Factory Integrated Model ships with:

HP NC375i Integrated Quad Port Gigabit Server Adapter
Integrated Lights-Out embedded
HP Smart Array P410i/Zero Memory Controller
(6) Hot-Plug (LFF) SAS/SATA Drive Bays
(9) available PCI-e Gen2 slots
(5) USB ports
(3) Hot Plug Fans
Tower Form Factor

HP ProLiant DL370 G6 Rack Models

HP ProLiant DL370 G6 SFF Configure-to-order Rack Server — 483874-B21
NOTE: Supports Small Form Factor (SFF) - 2.5" Drives

Factory Integrated Model ships with:

HP NC375i Integrated Quad Port Gigabit Server Adapter
Integrated Lights-Out embedded
HP Smart Array P410i/Zero Memory Controller
(8) Hot-Plug (SFF) SAS/SATA Drive Bays
(9) available PCI-e Gen2 slots
(5) USB ports
(3) Hot Plug Fans
4U Rack Form Factor

HP ProLiant DL370 G6 LFF Configure-to-order Rack Server — 483873-B21
NOTE: Supports Large Form Factor (LFF) - 3.5" Drives

Factory Integrated Model ships with:

HP NC375i Integrated Quad Port Gigabit Server Adapter
Integrated Lights-Out embedded

HP Smart Array P410i/Zero Memory Controller
(6) Hot-Plug (LFF) SAS/SATA Drive Bays
(9) available PCI-e Gen2 slots
(5) USB ports
(3) Hot Plug Fans
4U Rack Form Factor

Step 2: Choose Required Options (only one of the following from each list)

HP Processors	NOTE: If High Performance Model features are desired, 2nd processor is included in the Performance Pack part numbers in Step 3 below.	
	Six-Core Processors	
	HP ML/DL370 G6 Intel® Xeon® X5690 (3.46GHz/6-core/12MB/130W) FIO Processor Kit	625071-L21
	HP ML/DL370 G6 Intel® Xeon® X5675 (3.06GHz/6-core/12MB/95W) FIO Processor Kit	625073-L21
	HP ML/DL370 G6 Intel® Xeon® X5660 (2.80GHz/6-core/12MB/95W) FIO Processor Kit	601322-L21
	HP ML/DL370 G6 Intel® Xeon® X5650 (2.66GHz/6-core/12MB/95W) FIO Processor Kit	601323-L21
	HP ML/DL370 G6 Intel® Xeon® E5649 (2.53GHz/6-core/12MB/80W) FIO Processor Kit	625075-L21
	HP ML/DL370 G6 Intel® Xeon® E5645 (2.40GHz/6-core/12MB/80W) FIO Processor Kit	625077-L21
	Quad-Core Processors	
	HP ML/DL370 G6 Intel® Xeon® X5687 (3.60GHz/4-core/12MB/130W) FIO Processor Kit	625072-L21
	HP ML/DL370 G6 Intel® Xeon® X5672 (3.20GHz/4-core/12MB/95W) FIO Processor Kit	625074-L21
	HP ML/DL370 G6 Intel® Xeon® E5620 (2.40GHz/4-core/12MB/80W) FIO Processor Kit	601326-L21
	HP ML/DL370 G6 Intel® Xeon® E5607 (2.26GHz/4-core/8MB/80W) FIO Processor Kit	625078-L21
	HP ML/DL370 G6 Intel® Xeon® E5606 (2.13GHz/4-core/8MB/80W) FIO Processor Kit	625079-L21
	HP ML/DL370 G6 Intel® Xeon® L5630 (2.13GHz/4-core/12MB/40W) FIO Processor Kit	601328-L21
	HP ML/DL370 G6 Intel® Xeon® E5603 (1.60GHz/4-core/4MB/80W) FIO Processor Kit	625080-L21
HP Memory	**Registered DIMMs (RDIMMs)**	
	HP 2GB (1x2GB) Dual Rank x8 PC3-10600 (DDR3-1333) Registered CAS-9 Memory Kit	500656-B21
	HP 4GB (1x4GB) Dual Rank x4 PC3-10600 (DDR3-1333) Registered CAS-9 Memory Kit	500658-B21
	HP 4GB (1x4GB) Quad Rank x8 PC3-8500 (DDR3-1066) Registered CAS-7 Low Power Memory Kit	500660-B21

	HP 4GB (1x4GB) Single Rank x4 PC3-10600 (DDR3-1333) Registered CAS-9 Memory Kit	593339-B21
	HP 4GB (1x4GB) Single Rank x4 PC3L-10600 (DDR3-1333) Registered CAS-9 Low Power Memory Kit NOTE: Low Voltage DIMMs can only be used with Intel® Xeon® processor 5600 series processors.	604504-B21
	HP 8GB (1x8GB) Dual Rank x4 PC3-10600 (DDR3-1333) Registered CAS-9 Memory Kit	500662-B21
	HP 8GB (1x8GB) Dual Rank x4 PC3L-10600 (DDR3-1333) Registered CAS-9 Low Power Memory Kit NOTE: Low Voltage DIMMs can only be used with Intel® Xeon® processor 5600 series processors.	604506-B21
	HP 16GB (1x16GB) Quad Rank x4 PC3-8500 (DDR3-1066) Registered CAS-7 Memory Kit	500666-B21
	HP 16GB (1x16GB) Dual Rank x4 PC3L-10600 (DDR3-1333) Registered CAS-9 LP Memory Kit	627812-B21
	HP 32GB (1x32GB) Quad Rank x4 PC3L-8500 (DDR3-1066) Registered CAS-7 LP Memory Kit	627814-B21
	Unbuffered with ECC DIMMs (UDIMMs)	
	HP 1GB (1x1GB) Single Rank x8 PC3-10600 (DDR3-1333) Unbuffered CAS-9 Memory Kit	500668-B21
	HP 2GB (1x2GB) Dual Rank x8 PC3-10600 (DDR3-1333) Unbuffered CAS-9 Memory Kit	500670-B21
	HP 4GB (1x4GB) Dual Rank x8 PC3-10600 (DDR3-1333) Unbuffered CAS-9 Memory Kit	500672-B21
	HP 4GB (1x4GB) Dual Rank x8 PC3L-10600 (DDR3-1333) Unbuffered CAS-9 Low Power Memory Kit	619488-B21
	NOTE: All DDR3 memory option kits consist of one DIMM per kit. For detailed memory configuration rules and guidelines, please use the Online DDR3 Memory Configuration Tool: www.hp.com/go/ddr3memory-configurator. NOTE: Kits described as LP include Low Power DIMMs. For more information on ProLiant Energy Efficient Features, see: www.hp.com/go/proliant-energy-efficient NOTE: PC3L is a low voltage memory.	
HP Power Supplies	NOTE: Prior to making a power supply selection it is highly recommended that the HP Power Advisor is run to determine the right size power supply for your server configuration. The HP Power Advisor is located at: www.hp.com/go/hppoweradvisor.	
	HP 460W Common Slot Gold Hot Plug Power Supply Kit	503296-B21
	HP 750W Common Slot Gold Hot Plug Power Supply Kit	512327-B21
	HP 1200W Common Slot Silver Hot Plug Power Supply Kit	500172-B21
	NOTE: Option Kits contain optional power supply, an IEC power cable and PDU IEC cables.	

Step 3: Choose Additional Factory Integratable Options

HP Storage Controllers	NOTE: If Additional Memory Cache Module or Controller is Required please pick one of the following:	
	HP Smart Array P212/256 BBWC 1-ports Int/1-ports Ext PCIe x8 FIO SAS Controller	491191-B21
	HP Smart Array P410/256 BBWC 2-ports Int PCIe x8 FIO SAS Controller	491195-B21
	HP Smart Array P411/256 BBWC 2-ports Ext PCIe x8 FIO SAS Controller	491193-B21
HP Performance Packs	Performance Packs are necessary to configure a HP ProLiant DL370 G6 or a HP ProLiant ML370 G6 to a High Performance Model which includes the latest performance technologies and enterprise class availability features pre-installed for convenience and value. The Performance Pack includes a 2nd processor, 750W power supply, redundant fan, 1GB FBWC, Insight Control license NOTE: Must also select 447326-B21 to achieve parity to DL370 G6 or ML370 G6 High Performance Models (Including the DL370 G6 Performance Model with ICE).	
	HP ML370 G6 X5650 HPM FIO Perf Kit	605555-B21
HP Insight Software	HP Insight Control including 1yr 24x7 Support ProLiant ML/DL/BL-bundle Single Server FIO License	582765-B21
	HP Insight Control for Linux including 1yr 24x7 Support ML/DL Bundle 1 Server FIO License	TC203A

Step 4: Choose Additional Options for Factory Integration

NOTE: For additional options, please refer to the "Core Options" and "Additional Options" section below.

NOTE: Some options may not be integrated at the factory. To ensure only valid configurations are ordered, HP recommends the use of an HP approved configurator. Contact your local sales representative for additional information.

HP Unique Options	HP ML350/370 G6 8 Small Form Factor (SFF) 2nd Drive Cage Kit	507803-B21
	HP ML/DL370G6 6 Large Form Factor Backplane Kit	507810-B21
	HP ML350/ML/DL370G6 2 Large Form Factor Drive Kit	487936-B21
	HP ML370G6 Tower to Rack Conversion Kit	515031-B21
	HP ML370 G6 and DL370 G6 Redundant Fan Kit NOTE: Under the redundant fan configuration, only a single hot-pluggable fan can be replaced without having to power down the server	508107-B21
	HP 350/370G6 Graphic Card Cable Kit NOTE: An option kit will be required per Graphic Card) NOTE: Please see the HP Power Advisor for estimated power consumption of your individual system configuration prior to installing GPUs. The HP Power Advisor is located at: www.hp.com/go/hppoweradvisor. NOTE: 2 PCIe Gen2 x16 (mechanical/electrical); 1 PCIe Gen2 x16 (mechanical) x8 (electrical)	537721-B21
	HP ML/DL370 G6 2 Slot PCI-X Riser Kit NOTE: Customers purchasing the PCI-X Riser Kit, must also purchase the Redundant Fan kit (508107-B21) NOTE: PCI-X support is limited to PCI-X cards only	516434-B21
HP Processors	Six-Core Processors	
	HP ML/DL370 G6 Intel® Xeon® X5690 (3.46GHz/6-core/12MB/130W) Processor Kit	625071-B21
	HP ML/DL370 G6 Intel® Xeon® X5680 (3.33GHz/6-core/12MB/130W) Processor Kit	601320-B21
	HP ML/DL370 G6 Intel® Xeon® X5675 (3.06GHz/6-core/12MB/95W) Processor Kit	625073-B21
	HP ML/DL370 G6 Intel® Xeon® X5670 (2.93GHz/6-core/12MB/95W) Processor Kit	601321-B21
	HP ML/DL370 G6 Intel® Xeon® X5660 (2.80GHz/6-core/12MB/95W) Processor Kit	601322-B21
	HP ML/DL370 G6 Intel® Xeon® X5650 (2.66GHz/6-core/12MB/95W) Processor Kit	601323-B21
	HP ML/DL370 G6 Intel® Xeon® E5649 (2.53GHz/6-core/12MB/80W) Processor Kit	625075-B21
	HP ML/DL370 G6 Intel® Xeon® E5645 (2.40GHz/6-core/12MB/80W) Processor Kit	625077-B21
	Quad-Core Processors	
	HP ML/DL370 G6 Intel® Xeon® X5687 (3.60GHz/4-core/12MB/130W) Processor Kit	625072-B21
	HP ML/DL370 G6 Intel® Xeon® X5677 (3.46GHz/4-core/12MB/130W/) Processor Kit	626957-B21
	HP ML/DL370 G6 Intel® Xeon® X5672 (3.20GHz/4-core/12MB/95W) Processor Kit	625074-B21
	HP ML/DL370 G6 Intel® Xeon® X5667 (3.06GHz/4-core/12MB/95W) Processor Kit	631740-B21
	HP ML/DL370 G6 Intel® Xeon® E5640 (2.66GHz/4-core/12MB/80W) Processor Kit	601324-B21
	HP ML/DL370 G6 Intel® Xeon® E5630 (2.53GHz/4-core/12MB/80W) Processor Kit	601325-B21
	HP ML/DL370 G6 Intel® Xeon® E5620 (2.40GHz/4-core/12MB/80W) Processor Kit	601326-B21

	HP ML/DL370 G6 Intel® Xeon® W5580 (3.20GHz/4-core/8MB/130W) Processor Kit	495928-B21
	HP ML/DL370 G6 Intel® Xeon® X5570 (2.93GHz/4-core/8MB/95W) Processor Kit	495930-B21
	HP ML/DL370 G6 Intel® Xeon® X5560 (2.80GHz/4-core/8MB/95W) Processor Kit	495932-B21
	HP ML/DL370 G6 Intel® Xeon® X5550 (2.66GHz/4-core/8MB/95W) Processor Kit	495934-B21
	HP ML/DL370 G6 Intel® Xeon® E5540 (2.53GHz/4-core/8MB/80W) Processor Kit	495936-B21
	HP ML/DL370 G6 Intel® Xeon® E5530 (2.40GHz/4-core/8MB/80W) Processor Kit	495938-B21
	HP ML/DL370 G6 Intel® Xeon® E5520 (2.26GHz/4-core/8MB/80W) Processor Kit	495940-B21
	HP ML/DL370 G6 Intel® Xeon® E5607 (2.26GHz/4-core/8MB/80W) Processor Kit	625078-B21
	HP ML/DL370 G6 Intel® Xeon® E5606 (2.13GHz/4-core/8MB/80W) Processor Kit	625079-B21
	HP ML/DL370 G6 Intel® Xeon® E5506 (2.13GHz/4-core/4MB/80W) Processor Kit	495942-B21
	HP ML/DL370 G6 Intel® Xeon® E5504 (2.00GHz/4-core/4MB/80W) Processor Kit	495944-B21
	HP ML/DL370 G6 Intel® Xeon® L5630 (2.13GHz/4-core/12MB/40W) Processor Kit	601328-B21
	HP ML/DL370 G6 Intel® Xeon® L5520 (2.26GHz/4-core/8MB/60W) Processor Kit	505511-B21
	Dual-Core Processors	
	HP ML/DL370 G6 Intel® Xeon® E5502 (1.86GHz/2-core/4MB/80W) Processor Kit	495946-B21
	HP ML/DL370 G6 Intel® Xeon® E5603 (1.60GHz/4-core/4MB/80W) Processor Kit	625080-B21
HP Memory	Registered DIMMs (RDIMMs)	
	HP 2GB (1x2GB) Dual Rank x8 PC3-10600 (DDR3-1333) Registered CAS-9 Memory Kit	500656-B21
	HP S-Buy 2GB (1x2GB) Dual Rank x8 PC3-10600 (DDR3-1333) Registered CAS-9 Memory Kit	500656-S21
	HP 4GB (1x4GB) Dual Rank x4 PC3-10600 (DDR3-1333) Registered CAS-9 Memory Kit	500658-B21
	HP S-Buy 4GB (1x4GB) Dual Rank x4 PC3-10600 (DDR3-1333) Registered CAS-9 Memory Kit	500658-S21
	HP 4GB (1x4GB) Quad Rank x8 PC3-8500 (DDR3-1066) Registered CAS-7 Low Power Memory Kit	500660-B21
	HP 4GB (1x4GB) Single Rank x4 PC3-10600 (DDR3-1333) Registered CAS-9 Memory Kit	593339-B21
	HP S-Buy 4GB (1x4GB) Single Rank x4 PC3-10600 (DDR3-1333) Registered CAS-9 Memory Kit	593339-S21
	HP 4GB (1x4GB) Single Rank x4 PC3L-10600 (DDR3-1333) Registered CAS-9 Low Power Memory Kit NOTE: Low Voltage DIMMs can only be used with Intel® Xeon® processor 5600 series processors.	604504-B21
	HP 8GB (1x8GB) Dual Rank x4 PC3-10600 (DDR3-1333) Registered CAS-9 Memory Kit	500662-B21
	HP S-Buy 8GB (1x8GB) Dual Rank x4 PC3-10600 (DDR3-1333) Registered CAS-9 Memory Kit	500662-S21

Core Options

	HP 8GB (1x8GB) Dual Rank x4 PC3L-10600 (DDR3-1333) Registered CAS-9 Low Power Memory Kit NOTE: Low Voltage DIMMs can only be used with Intel® Xeon® processor 5600 series processors.	604506-B21
	HP 16GB (1x16GB) Quad Rank x4 PC3-8500 (DDR3-1066) Registered CAS-7 Memory Kit	500666-B21
	HP S-Buy 16GB (1x16GB) Quad Rank x4 PC3-8500 (DDR3-1066) Registered CAS-7 Memory Kit	500666-S21
	HP 16GB (1x16GB) Dual Rank x4 PC3L-10600 (DDR3-1333) Registered CAS-9 LP Memory Kit	627812-B21
	HP 32GB (1x32GB) Quad Rank x4 PC3L-8500 (DDR3-1066) Registered CAS-7 LP Memory Kit	627814-B21
	Unbuffered with ECC DIMMs (UDIMMs)	
	HP 1GB (1x1GB) Single Rank x8 PC3-10600 (DDR3-1333) Unbuffered CAS-9 Memory Kit	500668-B21
	HP 2GB (1x2GB) Dual Rank x8 PC3-10600 (DDR3-1333) Unbuffered CAS-9 Memory Kit	500670-B21
	HP S-Buy 2GB (1x2GB) Dual Rank x8 PC3-10600 (DDR3-1333) Unbuffered CAS-9 Memory Kit	500670-S21
	HP 4GB (1x4GB) Dual Rank x8 PC3-10600 (DDR3-1333) Unbuffered CAS-9 Memory Kit	500672-B21
	HP S-Buy 4GB (1x4GB) Dual Rank x8 PC3-10600 (DDR3-1333) Unbuffered CAS-9 Memory Kit	500672-S21
	HP 4GB (1x4GB) Dual Rank x8 PC3L-10600 (DDR3-1333) Unbuffered CAS-9 Low Power Memory Kit	619488-B21
	NOTE: All DDR3 memory option kits consist of one DIMM per kit. For detailed memory configuration rules and guidelines, please use the Online DDR3 Memory Configuration Tool: www.hp.com/go/ddr3memory-configurator NOTE: Kits described as LP include Low Power DIMMs. For more information on ProLiant Energy Efficient Features, see: www.hp.com/go/proliant-energy-efficient	
HP Drive Cage Options	HP ML350/370 G6 8 Small Form Factor (SFF) 2nd Drive Cage Kit	507803-B21
	HP ML/DL370G6 6 Large Form Factor Backplane Kit	507810-B21
	HP ML350/ML/DL370G6 2 Large Form Factor Drive Kit	487936-B21
HP Optical Drives	HP Half-Height SATA DVD-ROM Optical Drive	447326-B21
	HP Half-Height SATA DVD-RW Optical Drive	447328-B21
	HP Slim 12.7mm SATA DVD-ROM Optical Drive	481041-B21
	HP Slim 12.7mm SATA DVD-RW Optical Drive	481043-B21
HP Hard Drives	NOTE: The components of a storage subsystem (e.g. the drive, the HBA/controller, firmware, and the server backplane) should operate at the same data transfer rate or the system bandwidth will be negotiated down to an acceptable level for all components.	

NOTE: Hard drives have either a one year or three year warranty; refer to the specific hard drive QuickSpecs for details.

SAS Hot Plug SFF (2.5-inch) Enterprise (ENT) Drives	
HP 900GB 6G SAS 10K rpm SFF (2.5-inch) Dual Port Enterprise 3yr Warranty Hard Drive	619291-B21
HP 900GB 6G SAS 10K rpm SFF (2.5-inch) Enterprise 3yr Warranty Hard Drive S-Buy	619291-S21
HP 600GB 6G SAS 10K rpm SFF (2.5-inch) Dual Port Enterprise 3yr Warranty Hard Drive	581286-B21
HP 600GB 6G SAS 10K rpm SFF (2.5-inch) Dual Port Enterprise 3yr Warranty Hard Drive S-Buy	581286-S21
HP 450GB 6G SAS 10K rpm SFF (2.5-inch) Dual Port Enterprise 3yr Warranty Hard Drive	581284-B21
HP 300GB 6G SAS 10K rpm SFF (2.5-inch) Dual Port Enterprise 3yr Warranty Hard Drive	507127-B21
HP 300GB 6G SAS 10K rpm SFF (2.5-inch) Dual Port Enterprise 3yr Warranty Hard Drive S-Buy	507127-S21
HP 300GB 6G SAS 15K rpm SFF (2.5-inch) Hot Plug Enterprise 3 yr Warranty Hard Drive	627117-B21
HP 300GB 6G SAS 15K rpm SFF (2.5-inch) Hot Plug Enterprise 3 yr Warranty Hard Drive S-Buy	627117-S21
HP 146GB 6G SAS 15K rpm SFF (2.5-inch) Dual Port Enterprise 3yr Warranty Hard Drive	512547-B21
HP 146GB 6G SAS 15K rpm SFF (2.5-inch) Dual Port Enterprise 3yr Warranty Hard Drive S-Buy	512547-S21
HP 146GB 6G SAS 10K rpm SFF (2.5-inch) Dual Port Enterprise 3yr Warranty Hard Drive S-Buy	507125-S21
HP 72GB 6G SAS 15K rpm SFF (2.5-inch) Dual Port Enterprise 3yr Warranty Hard Drive	512545-B21
SAS Hot Plug LFF (3.5-inch) Enterprise (ENT) Drives	
HP 600GB 6G SAS 15K rpm LFF (3.5-inch) Dual Port Enterprise 3yr Warranty Hard Drive	516828-B21
HP 450GB 6G SAS 15K rpm LFF (3.5-inch) Dual Port Enterprise 3yr Warranty Hard Drive	516816-B21
HP 300GB 6G SAS 15K rpm LFF (3.5-inch) Dual Port Enterprise 3yr Warranty Hard Drive	516814-B21
SAS Hot Plug SFF (2.5-inch) Midline (MDL) Drives	
HP 1TB 6G SAS 7.2K rpm SFF (2.5-inch) Dual Port Midline 1yr Warranty Hard Drive	605835-B21
HP 1TB 6G SAS 7.2K rpm SFF (2.5-inch) Hot Plug Midline 1yr Warranty Hard Drive S-Buy	605835-S21
HP 500GB 6G SAS 7.2K rpm SFF (2.5-inch) Dual Port Midline 1yr Warranty Hard Drive	507610-B21
SAS Hot Plug LFF (3.5-inch) Midline (MDL) Drives	
HP 3TB 6G SAS 7.2K rpm LFF (3.5-inch) Midline 1yr Warranty Hard Drive	625031-B21
HP 2TB 6G SAS 7.2K rpm LFF (3.5-inch) Dual Port Midline 1yr Warranty Hard Drive	507616-B21
HP 1TB 6G SAS 7.2K rpm LFF (3.5-inch) Dual Port Midline 1yr Warranty Hard Drive	507614-B21

NOTE: Please see the QuickSpecs for Technical Specifications and additional information:
http://h18000.www1.hp.com/products/quickspecs/12244_na/12244_na.html

SATA Hot Plug SFF (2.5-inch) Midline (MDL) Drives	
HP 1TB 3G SATA 7.2K rpm SFF (2.5-inch) Hot Plug Midline 1yr Warranty Hard Drive	625609-B21
HP 1TB 3G SATA 7.2K rpm SFF (2.5-inch) Hot Plug Midline 1yr Warranty Hard Drive S-Buy	625609-S21
HP 500GB 3G SATA 7.2K rpm SFF (2.5-inch) Midline 1yr Warranty Hard Drive	507750-B21
HP 500GB 3G SATA 7.2K rpm SFF (2.5-inch) Midline 1yr Warranty Hard Drive S-Buy	507750-S21
SATA Hot Plug LFF (3.5-inch) Midline (MDL) Drives	
HP 3TB 3G SATA 7.2K rpm LFF (3.5-inch) Midline 1yr Warranty Hard Drive	628059-B21
HP 2TB 3G SATA 7.2K rpm LFF (3.5-inch) Midline 1yr Warranty Hard Drive	507632-B21
HP 1TB 3G SATA 7.2K rpm LFF (3.5-inch) Midline 1yr Warranty Hard Drive	454146-B21
HP 1TB 3G SATA 7.2K rpm LFF (3.5-inch) Midline 1yr Warranty Hard Drive S-Buy	454146-S21
HP 500GB 3G SATA 7.2K rpm LFF (3.5-inch) Midline 1yr Warranty Hard Drive	458928-B21
HP 500GB 3G SATA 7.2K rpm LFF (3.5-inch) Midline 1yr Warranty Hard Drive	458928-S21
SATA Hot Plug LFF (3.5-inch) Entry (ETY) Drives	
HP 250GB 3G SATA 7.2K rpm LFF (3.5-inch) Entry 1yr Warranty Hard Drive	571230-B21
HP 160GB 3G SATA 7.2K rpm LFF (3.5-inch) Entry 1yr Warranty Hard Drive	458945-B21

NOTE: Please see the QuickSpecs for Technical Specifications and additional information:
http://h18000.www1.hp.com/products/quickspecs/13021_na/13021_na.html

SATA Hot Plug 2.5" Enterprise Mainstream Solid State Drives	
HP 400GB 3G SATA MLC SFF (2.5-inch) Enterprise Mainstream 3yr Warranty Solid State Drive	636597-B21
HP 200GB 3G SATA MLC SFF (2.5-inch) Enterprise Mainstream 3yr Warranty Solid State Drive	636595-B21
HP 120GB 3G SATA SFF (2.5-inch) Midline 1yr Warranty Solid State Drive	572073-B21
HP 100GB 3G SATA MLC SFF (2.5-inch) Enterprise Mainstream 3yr Warranty Solid State Drive	636593-B21
SATA Hot Plug 3.5" Midline (MDL) Solid State Drives	
HP 400GB 3G SATA MLC LFF (3.5-inch) Enterprise Mainstream 3yr Warranty Solid State Drive	636611-B21
HP 200GB 3G SATA MLC LFF (3.5-inch) Enterprise Mainstream 3yr Warranty Solid State Drive	636609-B21
HP 100GB 3G SATA MLC LFF (3.5-inch) Enterprise Mainstream 3yr Warranty Solid State Drive	636607-B21

NOTE: Please see the QuickSpecs for Technical Specifications and additional information:
http://h18000.www1.hp.com/products/quickspecs/13415_na/13415_na.html

6G SAS Hot Plug Enterprise Performance Solid State Drives	
HP 400GB 6G SAS SLC SFF (2.5-inch) Enterprise Performance 3yr Warranty Solid State Drive	632494-B21

	HP 200GB 6G SAS SLC SFF (2.5-inch) Enterprise Performance 3yr Warranty Solid State Drive	632492-B21
	6G SAS Hot Plug Enterprise Mainstream Solid State Drives	
	HP 800GB 6G SAS MLC SFF (2.5-inch) Enterprise Mainstream 3yr Warranty Solid State Drive	632506-B21
	HP 400GB 6G SAS MLC SFF (2.5-inch) Enterprise Mainstream 3yr Warranty Solid State Drive	632504-B21
	HP 200GB 6G SAS MLC SFF (2.5-inch) Enterprise Mainstream 3yr Warranty Solid State Drive	632502-B21
	NOTE: Please see the QuickSpecs for Technical Specifications and additional information: http://h18000.www1.hp.com/products/quickspecs/14038_na/14038_na.html	
HP Networking	Gigabit Ethernet adapters	
	HP NC112T PCI Express Gigabit Server Adapter	503746-B21
	HP NC360T PCI-E Dual Port Gigabit Server Adapter	412648-B21
	HP NC364T PCI-E Quad Port Gigabit Server Adapter	435508-B21
	NOTE: There is a maximum of five NC364T PCI Express Quad Port Gigabit Server Adapters allowed in this server.	
	HP NC365T 4-port Ethernet Server Adapter	593722-B21
	HP NC373F PCI-E Multifunction 1000SX Gigabit Svr Adapter	394793-B21
	HP NC373T PCI-E Multifunction Gigabit Server Adapter	394791-B21
	HP NC375T PCI Express Quad Port Gigabit Server Adapter	538696-B21
	HP NC382T PCI Express Dual Port Multifunction Gigabit Server Adapter	458492-B21
	10 Gigabit Ethernet adapters	
	NOTE: No more than two 10GbE I/O devices are supported in a single ProLiant server.	
	NOTE: A minimum of two Gigabytes (2 GB) of server memory is required per each adapter.	
	NOTE: Direct Attach Cable (DAC) for copper environments or fiber transceivers and cables for fiber-optic environments must be purchased separately.	
	HP NC522SFP Dual Port 10GbE Gigabit Server Adapter	468332-B21
	HP NC523SFP 10Gb 2-port Server Adapter	593717-B21
	HP NC524SFP Dual Port 10GbE Module	489892-B21
	HP NC550SFP Dual Port 10GbE Server Adapter	581201-B21
	HP NC552SFP 10Gb 2-port Ethernet Server Adapter	614203-B21
	NOTE: Please see the QuickSpecs for Technical Specifications and additional information: www.hp.com/go/ProLiantNICs.	
	Smart-mini DIMM Module	
	HP 512MB DDR2 244P Mini DIMM Module Kit	519808-B21
	NOTE: By plugging the Smart-mini DIMM Module to the HP NC375i Integrated Quad Port Gigabit Server Adapter, TCP/IP Offload Engine (TOE) for Windows is enabled/supported.	

Core Options

HP InfiniBand	HP InfiniBand 4X DDR PCI-E 0 Memory Dual Port HCA	483513-B21
	QLogic InfiniBand 4X QDR PCI-E G2 Dual Port HCA	583211-B21
	HP InfiniBand 4X DDR ConnectX-2 PCIe G2 Dual Port HCA	592521-B21
	HP InfiniBand 4X QDR ConnectX-2 PCIe G2 Dual Port HCA	592520-B21
HP I/O Expansion Options	HP ML/DL370 G6 2 Slot PCI-X Riser Kit	516434-B21
	NOTE: Customers purchasing the PCI-X Riser Kit, must also purchase the Redundant Fan kit (508107-B21)	
	NOTE: PCI-X support is limited to PCI-X cards only	
HP Power Supplies	NOTE: Prior to making a power supply selection it is highly recommended that the HP Power Advisor is run to determine the right size power supply for your server configuration. The HP Power Advisor is located at: www.hp.com/go/hppoweradvisor.	
	HP 460W Common Slot Gold Hot Plug Power Supply Kit	503296-B21
	HP 750W Common Slot Gold Hot Plug Power Supply Kit	512327-B21
	HP 1200W Common Slot Silver Hot Plug Power Supply Kit	500172-B21
	NOTE: Option Kits contain optional power supply, an IEC power cable and PDU IEC cables.	
HP Cooling Options	HP ML/DL370G6 Redundant Fan Kit	508107-B21

NOTE: Some options may not be integrated at the factory. To ensure only valid configurations are ordered, HP recommends the use of an HP approved configurator. Contact your local sales representative for additional information.

HP Insight Software	HP Insight Control	
	HP Insight Control including 1yr 24x7 Support ProLiant ML/DL/BL-bundle Electronic License	T9074BAE
	HP Smart Buy Insight Control suite, No Media, Electronic License including 1 year of 24x7 Technical Support and Updates	T9074ASE
	HP Insight Control including 1yr 24x7 Support ProLiant ML/DL/BL-bundle Electronic License	TC278AAE
	HP Smart Buy Insight Control, Single-Server License including 1 year of 24x7 Technical Support and Updates	452148-S22
	HP Insight Control including 1yr 24x7 Technical Support and Updates Single Server License	452148-B22
	HP Insight Control including 1yr 24x7 Support ProLiant ML/DL/BL-bundle Tracking License	TC275A
	HP Insight Software Media Kit NOTE: Insight Software DVD media without licenses. Contains HP Systems Insight Manager, HP Insight Control, HP Insight Dynamics, HP Insight Control for Microsoft System Center, and Virtual Connect Enterprise Manager software. Uses an integrated installer to perform quick and accurate software installation and updates. NOTE: Electronic and Flexible-Quantity licenses can be used to purchase multiple licenses with a single activation key. NOTE: Customer will receive a license entitlement certificate. The license entitlement certificate must be redeemed online or via fax in order to obtain the license activation key(s). Includes one year of 24 x 7 HP Software Technical Support and Update Service. NOTE: Licenses ship without media. The HP Insight Control Media Kit can be ordered separately, or can be downloaded at: http://www.hp.com/go/insightupdates. NOTE: For additional license options please see the Insight Control QuickSpecs at: http://h18000.www1.hp.com/products/quickspecs/12631_na/12631_na.html	436222-B21
	HP Insight Control for Linux	
	HP Insight Control for Linux including 1yr 24x7 Support Electronic License	TC213AAE
	HP Smart Buy Insight Control for Linux, 1-server license, including one year of 24x7 Technical Support and Updates, Electronic	TC213ASE
	HP Insight Control for Linux including 1yr 24x7 Support Single Server License	TC209A
	HP Insight Control for Linux Media Kit NOTE: Media pack DVD contains the ISO image for HP Insight Control for Linux, HP Systems Insight Manager, HP Insight Control power management, HP Insight Control virtual machine management, and an integrated installer. Servers must be acquired separately. NOTE: Licenses ship without media. The Media Kit for Insight Control for Linux can be ordered separately, or can be downloaded at: http://www.hp.com/go/ic-linux (click on Download button). NOTE: Electronic and Flexible-Quantity licenses can be used to purchase multiple licenses with a single set of activation keys. NOTE: For additional License Kits, including electronic licensing options, please see the QuickSpecs at:	TC208A

http://h18000.www1.hp.com/products/quickspecs/13019_na/13019_na.html

HP Integrated Lights-Out (iLO) Advanced

HP iLO Advanced including 1yr 24x7 Technical Support and Updates Electronic License	TA850AAE
HP iLO Advanced including 1yr 24x7 Technical Support and Updates Single Server License	512485-B21

NOTE: This license allows 1 server to be deployed and managed via HP iLO Advanced. Customer will receive a printed license entitlement certificate via physical shipment. The license entitlement certificate must be redeemed online or via fax in order to obtain the license activation key(s). Includes one year of 24 x 7 HP Software Technical Support Service

NOTE: For additional license kits, including electronic delivery options, please see the QuickSpecs at:
http://h18000.www1.hp.com/products/quickspecs/12362_na/12362_na.html

HP Insight Control server deployment

HP Insight Control Server Deployment including 1yr 24x7 Support Electronic License	T9082AAE
HP Insight Control Server Deployment including 1yr 24x7 Support Single Server License	452151-B21

NOTE: Licenses ship without media. The Insight Control Media Kit can be ordered separately, or can be downloaded at: http://www.hp.com/go/insightupdates.

NOTE: Electronic licenses can be used to purchase multiple licenses with a single activation key.

NOTE: Customer will receive a license entitlement certificate, which must be redeemed online or via fax in order to obtain the license activation key(s). Includes one year of 24 x 7 HP Software Technical Support Service.

NOTE: For additional license kits please see the Insight Control QuickSpecs at:
http://h18004.www1.hp.com/products/quickspecs/12631_na/12631_na.html

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High Performance Clusters

HP Cluster Management Utility

HP Cluster Management Utility Flexible License	QL803A

NOTE: This part number can be used to purchase one certificate for multiple licenses with a single activation key. Each license is for one node (server). Customer will receive a printed end user license agreement and license entitlement certificate via physical shipment. The license entitlement certificate must be redeemed online in order to obtain a license key.

HP Cluster Management Utility Media	433257-B21

NOTE: Order a minimum of one license per cluster to purchase media including software and documentation, which will be delivered to the customer, and also licenses CMU management. No license key is delivered or required.

NOTE: For additional license kits please see the QuickSpecs at:
http://h18004.www1.hp.com/products/quickspecs/12612_na/12612_na.html

HP HPC Linux Value Pack

Additional Options

	HP High Performance Computing Linux Value Pack 1 Processor Flexible License NOTE: This part number can be used to purchase one certificate for multiple licenses with a single activation key. Each license is for one socket (a.k.a. processor). Customer will receive a printed end user license agreement and license entitlement certificate via physical shipment. The license entitlement certificate must be redeemed online in order to obtain a license key.	TC293B
	HP High Performance Computing Linux Value Pack Media Kit NOTE: This part number can be used to purchase media including software and documentation, which will be delivered to the customer. NOTE: For additional license kits please see the QuickSpecs at: http://h18004.www1.hp.com/products/quickspecs/13485_na/13485_na.html	TC294A
HP Drive Cage Options	HP ML350/370 G6 8 Small Form Factor (SFF) 2nd Drive Cage Kit	507803-B21
	HP ML/DL370G6 6 Large Form Factor Backplane Kit	507810-B21
	HP ML350/ML/DL370G6 2 Large Form Factor Drive Kit	487936-B21
HP Graphic Options	HP 350/370G6 Graphic Card Cable Kit NOTE: An option kit will be required per Graphic Card. NOTE: Please see the HP Power Advisor for estimated power consumption of your individual system configuration prior to installing GPUs. The HP Power Advisor is located at: www.hp.com/go/hppoweradvisor. NOTE: 2 PCIe Gen2 x16 (mechanical/electrical); 1 PCIe Gen2 x16 (mechanical) x8 (electrical)	537721-B21
	NVIDIA Quadro 4000 2GB PCI-E Adapter	655933-B21
	NVIDIA Quadro 6000 6GB PCI-E Adapter	655935-B21
HP I/O Accelerator Options	HP 160GB Single Level Cell PCIe ioDrive for ProLiant Servers NOTE: A low-profile PCI bracket is included for use in low-profile slots.	600278-B21
	HP 320GB Multi Level Cell PCIe ioDrive for ProLiant Servers NOTE: A low-profile PCI bracket is included for use in low-profile slots.	600279-B21
	HP 320GB Single Level Cell PCIe ioDrive Duo for ProLiant Servers	600281-B21
	HP 640GB Multi Level Cell PCIe ioDrive Duo for ProLiant Servers	600282-B21
	HP 1.28TB Multi Level Cell PCIe IO Accelerator	641027-B21
	NOTE: Please see the QuickSpecs for Technical Specifications and additional information: http://h18000.www1.hp.com/products/quickspecs/13587_na/13587_na.html	

Additional Options

HP Security - TPM	HP Trusted Platform Module Option	488069-B21
	NOTE: The TPM (Trusted Platform Module) is a microcontroller chip that can securely store artifacts used to authenticate the server platform. These artifacts can include passwords, certificates and encryption keys. Windows® BitLocker™ Drive Encryption (BitLocker) is a data protection feature available in Windows Server® 2008. BitLocker leverages the enhanced security capabilities of a Trusted Platform Module (TPM) version 1.2. The TPM works with BitLocker to help protect user data and to ensure that a server running Windows Server 2008 has not been tampered with while the system was offline. For more information about TPM, including a white paper, go to: www.hp.com/go/TPM.	
	NOTE: ProLiant OS pre-installed units will come with the partition required for TPM deployment.	
	NOTE: The TPM key is unique to every TPM deployed server and must be retained. Misplacing or losing the key could result in data loss.	
HP Storage Controllers	SAS Controllers	
	Smart Array P800 Controller	
	HP Smart Array P800/512 BBWC 2-ports Int/2-ports Ext PCIe x8 SAS Controller	381513-B21
	HP Smart Array P212 Controller	
	HP Smart Array P212/ZM 1-ports Int/1-ports Ext PCIe x8 SAS Controller	462828-B21
	HP Smart Array P212/256 1-ports Int/1-ports Ext PCIe x8 SAS Controller	462834-B21
	HP Smart Array P410 Controller	
	HP Smart Array P410/256 2-ports Int PCIe x8 SAS Controller	462862-B21
	HP Smart Array P410/512 BBWC 2-ports Int PCIe x8 SAS Controller	462864-B21
	HP Smart Array P410/512 FBWC 2-ports Int PCIe x8 SAS Controller	578230-B21
	HP Smart Array P410/1G FBWC 2-ports Int PCIe x8 SAS Controller	572532-B21
	HP Smart Array P411 Controller	
	HP Smart Array P411/256 2-ports Ext PCIe x8 SAS Controller	462830-B21
	HP Smart Array P411/512 BBWC 2-ports Ext PCIe x8 SAS Controller	462832-B21
	HP Smart Array P411/512 FBWC 2-ports Ext PCIe x8 SAS Controller	578229-B21
	HP Smart Array P411/1G FBWC 2-ports Ext PCIe x8 SAS Controller	572531-B21
	Smart Array P812 Controller	
	HP Smart Array P812/1G FBWC 2-ports Int/4-ports Ext PCIe x8 SAS Controller	487204-B21
	Optional Upgrades	
	NOTE: These Optional Upgrades are Supported on the Smart Array P410i Controller only.	
	HP 256MB P-series Cache Upgrade	462968-B21
	HP 512MB P-Series Battery Backed Write Cache Upgrade	462967-B21
	HP 512MB Flash Backed Write Cache	534916-B21
	HP 1GB Flash Backed Cache	534562-B21
	HP 8484 to Mini SAS 33in Cable Assembly	591734-B21
	NOTE: Cable for use connecting the Smart Array P800 Controller to internal hard disk drives on select HP ProLiant G6 Servers.	
	HP Smart Array Advanced Pack including 1yr 24x7 Technical Support and Updates	516471-B21

Additional Options

Single Server License

NOTE: This part number can be used to purchase a single license or to order multiple licenses with a single activation key. Customers will receive a license entitlement certificate via e-mail. The license entitlement certificate must be redeemed online or via fax in order to obtain the license activation key(s). Include one year of 24x7 HP Software Technical Support Services.

NOTE: Please see the QuickSpecs for Technical Specifications and additional information:
http://h18000.www1.hp.com/products/quickspecs/12616_na/12616_na.html (Smart Array P800 Controller)
http://h18000.www1.hp.com/products/quickspecs/13203_na/13203_na.html (Smart Array P212 Controller)
http://h18000.www1.hp.com/products/quickspecs/13201_na/13201_na.html (Smart Array P410 Controller)
http://h18000.www1.hp.com/products/quickspecs/13202_na/13202_na.html (Smart Array P411 Controller)
http://h18000.www1.hp.com/products/quickspecs/13558_na/13558_na.html (Smart Array P812 Controller)

SAS Controller Options

HP 24 Bay 6Gb SAS Expander Card — 468406-B21

NOTE: For use with the additional 8 SFF drive cage (507803-B21).

NOTE: Please see the QuickSpecs for Technical Specifications and additional information:
http://h18004.www1.hp.com/products/quickspecs/13232_na/13232_na.html (SAS Expander Card)

SAS HBA

HP Modular Smart Array SC08e 2-ports Ext PCIe x8 SAS Host Bus Adapter — 614988-B21

NOTE: This is a 2 x4 External Port HBA

NOTE: This is only approved for the HP P2000 G3 SAS Modular Smart Array.

NOTE: Please see the QuickSpecs for Technical Specifications and additional information:
http://h18004.www1.hp.com/products/quickspecs/13651_na/13651_na.html (SC08e 6Gb HBA)

SCSI HBA

HP SC11Xe Ultra320 Single Channel/ PCIe x4 SCSI Host Bus Adapter — 412911-B21

NOTE: Recommended HBA for SCSI tape drive connect.

NOTE: Please see the following QuickSpecs for additional information:
http://h18000.www1.hp.com/products/quickspecs/12566_na/12566_na.html (SC11Xe HBA)

HP Power Cords

NOTE: HP ProLiant servers ships with an IEC-IEC power cord used for rack mounting with Power Distribution Units (PDUs).

HP 1.83m 10A C13 Power Cord — AF556A

Additional Options

HP Backup & Recovery Software	HP Data Protector Express	
	HP Data Protector Express V5.0 for 1 Server E-LTU	TC330AAE
	HP Data Protector Express V5.0 for 3 Servers E-LTU	TC331AAE
	HP Data Protector Express V5.0 for 10 Servers E-LTU	TC332AAE
	HP Basic Upgrade to Data Protector Express V5 for 1 Server E-LTU	TC333AAE
	NOTE: One of these Data Protector Express base products is required. To see available options: http://www.hp.com/go/dataprotectorexpress	
HP Tape Backup	NOTE: For the complete range of tape drives, autoloaders, libraries and media see: http://www.hp.com/go/tape. For hardware and software compatibility of HP tape backup products see: http://www.hp.com/go/connect.	
	HP DAT 160 USB Internal Tape Drive	Q1580A
	HP DAT 160 SAS Internal Tape Drive NOTE: For installation into 1U SAS Rack-Mount Kit (AE459B) or 3U SAS Rack-Mount Kit (AG576B). No peripheral bay available for installation into the server. Connection using HP P212 SAS Smart Array Controller (462828-B21) recommended.	Q1587A
	HP LTO-5 Ultrium 3000 SAS External Tape Drive NOTE: Connection using HP P212 SAS Smart Array Controller (462828-B21) recommended.	EH958A
	HP 1/8 G2 LTO-4 Ultrium 1760 SAS Tape Autoloader NOTE: Requires HP 1U Tape Autoloader Rack Kit (AH166A) for rack installation. Connection using HP P212 SAS Smart Array Controller (462828-B21) recommended.	AK377A
	HP DAT 320 USB Internal Tape Drive	AJ825A
	HP DAT 320 SAS Internal Tape Drive NOTE: Connection using HP P212 SAS Smart Array Controller (462828-B21) recommended.	AJ830A
	HP Ultrium 448 SAS Internal Drive	DW085A
	HP Ultrium 920 SAS Internal Tape Drive NOTE: Connection using HP P212 SAS Smart Array Controller (462828-B21) recommended.	EH847A
	HP LTO-4 Ultrium 1760 SAS Internal WW Tape Drive NOTE: Connection using HP P212 SAS Smart Array Controller (462828-B21) recommended.	EH919A
	HP LTO-4 Ultrium 1840 SAS External WW Drive NOTE: Connection using HP P212 SAS Smart Array Controller (462828-B21) recommended.	EH861A
	HP LTO-5 Ultrium 3280 SAS Internal Tape Drive NOTE: For installation into 3U SAS rack kit (AG576B). No peripheral bay available for installation into the server. Connection using HP P212 SAS Smart Array Controller (462828-B21) recommended.	EH899A
	HP LTO-5 Ultrium 3000 SAS Internal Tape Drive NOTE: Connection using HP P212 SAS Smart Array Controller (462828-B21) recommended.	EH957A
	HP 1/8 G2 LTO-5 Ultrium 3000 SAS Tape Autoloader NOTE: Requires HP 1U Tape Autoloader Rack Kit (AH166A) for rack installation. Connection using HP P212 SAS Smart Array Controller (462828-B21) recommended.	BL536A

Additional Options

	HP MSL2024 1 LTO-5 Ultrium 3000 SAS Tape Library NOTE: Connection using HP P212 SAS Smart Array Controller (462828-B21) recommended.	BL537A
	HP MSL2024 1 LTO-4 Ultrium 1760 SAS Tape Library	AK378A
	HP MSL4048 2 LTO-5 Ultrium 3000 SAS Tape Library NOTE: Connection using HP P212 SAS Smart Array Controller (462828-B21) recommended.	BL538A
	HP MSL4048 2 LTO-4 Ultrium 1760 SAS Tape Library	AK380A
HP Disk Backup	NOTE: For the complete range of D2D Backup Systems see: http://www.hp.com/go/d2d. For the complete range of RDX drives and media see: http://www.hp.com/go/rdx. For hardware and software compatibility of HP disk backup products see: http://www.hp.com/go/connect.	
	HP D2D Backup Systems with Backup Data Deduplication	
	HP D2D2502i Backup System NOTE: 1.5TB of useable network disk backup capacity. Network connected appliance with connectivity using the iSCSI protocol. If the server requires a hardware iSCSI initiator, the QLogic QLA4050 Host Bus Adapter is recommended.	EJ001B
	HP D2D2504i Backup System NOTE: 3.0TB of useable network disk backup capacity. Network connected appliance with connectivity using the iSCSI protocol. If the server requires a hardware iSCSI initiator, the QLogic QLA4050 Host Bus Adapter is recommended.	EJ002B
	HP D2D4112 Backup System NOTE: 9.0TB (expandable to 18.0TB) of useable network disk backup capacity. Fibre Channel SAN connected appliance. Direct server attach is not supported, requires connection via SAN fabric.	EH993B
	HP RDX Removable Disk Backup Systems USB	
	HP StorageWorks RDX160 Internal Removable Disk Backup System	AJ765A
	HP StorageWorks RDX320 Internal Removable Disk Backup System NOTE: For installation into 1U USB Rack-Mount Kit (A8007A). No peripheral bay available for drive installation into the server. 320GB of disk capacity per data cartridge.	AJ767A
	HP StorageWorks RDX500 Internal Removable Disk Backup System NOTE: For installation into 1U USB Rack-Mount Kit (A8007A). No peripheral bay available for drive installation into the server. 500GB of disk capacity per data cartridge.	AJ934A
	HP StorageWorks RDX1000 Internal Removable Disk Backup System NOTE: For installation into 1U USB Rack-Mount Kit (A8007A). No peripheral bay available for drive installation into the server. 1 TB of disk capacity per data cartridge.	BV847A

Additional Options

HP Storage Options	Fibre Channel HBA	
	NOTE: The following is a list of all Fibre Channel Host Bus Adapters for Windows and Linux. For detailed compatibility information please see: http://h18006.www1.hp.com/storage/saninfrastructure/hba.html	
	Brocade Fibre Channel HBAs	
	HP 81B PCIe 8Gb Fibre Channel Single Port Host Bus Adapter	AP769A
	HP 82B PCIe 8Gb Fibre Channel Dual Port Host Bus Adapter	AP770A
	HP 41B PCIe 4Gb Fibre Channel Single Port Host Bus Adapter	AP767A
	HP 42B PCIe 4Gb Fibre Channel Dual Port Host Bus Adapter	AP768A
	Emulex Fibre Channel HBAs	
	HP 81E 8Gb Single Port PCI-e Fibre Channel Host Bus Adapter	AJ762A
	HP 82E 8Gb Dual Port PCI-e Fibre Channel Host Bus Adapter	AJ763A
	HP FC2142SR 4Gb PCIe Host Bus Adapter	A8002A
	HP FC2242SR 4Gb PCIe DC Host Bus Adapter	A8003A
	QLogic Fibre Channel HBAs	
	HP 81Q PCI-e Fibre Channel Host Bus Adapter	AK344A
	HP 82Q 8Gb Dual Port PCI-e Fibre Channel Host Bus Adapter	AJ764A
	HP FC1142SR 4Gb PCIe Host Bus Adapter	AE311A
	HP FC1242SR 4Gb PCIe DC Host Bus Adapter	AE312A
	Converged Network Adapter	
	HP CN1100E Dual Port Converged Network Adapter	BK835A
	HP CN1000E Dual Port Converged Network Adapter	AW520A
HP Disk Storage Systems	MSA SAN Storage Arrays	
	HP MSA70 Array	418800-B21
	NOTE: Supports 25 SFF drives, and SAS 3 Gb/s and SATA 3 Gb/s.	
	NOTE: Please see the QuickSpecs for additional options and configuration information at: http://h18000.www1.hp.com/products/quickspecs/12652_na/12652_na.html	
	Disk Enclosures	
	HP D2600 Disk Enclosure	AJ940A
	HP D2700 Disk Enclosure	AJ941A
	NOTE: Please see the QuickSpecs for additional information including configuration steps and additional options needed for a complete solution at: http://h18000.www1.hp.com/products/quickspecs/13404_na/13404_na.html	

Additional Options

HP Uninterruptible Power Systems	HP Tower UPS	
	HP T1000 G3 UPS Models	
	HP T1000 G3 1000VA Tower Uninterruptible Power System	AF448A
	HP T1500 G3 UPS Models	
	HP T1500 G3 1400VA Tower Uninterruptible Power System	AF450A
	NOTE: Please see the QuickSpecs for additional information: http://h18000.www1.hp.com/products/quickspecs/13160_na/13160_na.html (Worldwide)	
	HP Rack-mountable UPS	
	HP R1500 G3 Uninterruptible Power Supply (UPS)	
	HP R1.5kVA G3 1U Uninterruptible Power System	AF469A
	NOTE: Please see the QuickSpecs for additional information: http://h18000.www1.hp.com/products/quickspecs/14059_na/14059_na.html	
	HP R/T3000 G2 Uninterruptible Power System (UPS)	
	HP R/T3000 G2 2U L530 Low Voltage Uninterruptible Power System	AF466A
	HP R/T3000 G2 2U L620 High Voltage Uninterruptible Power System	AF467A
	NOTE: Please see the QuickSpecs for additional information: http://h18000.www1.hp.com/products/quickspecs/14058_na/14058_na.html	
	NOTE: For additional information on HP Uninterruptible Power Systems please go to: www.hp.com/servers/rackups. NOTE: For additional information on sizing your server, please reference: http://www.upssizer.com.	
	Please see the UPS and PDU cable matrix's on the HP Power Protection and Management page. Under Power Cords, click on the "HP Power Cord Matrix" link. That link will list cable descriptions, requirements, and specifications for UPS and PDU units. Please see the following link: www.hp.com/products/powercords.	
HP Power Distribution Units	Modular Power Distribution Units 1U/0U (Up to 32 outlets) NOTE: 1U/0U mounting brackets shipped with the unit (optimized for 10000 and 9000 series racks).	
	HP 4.9kVA 24A High Voltage Modular Power Distribution Unit	252663-D72
	HP 8.3kVA 40A High Voltage Modular Power Distribution Unit	252663-D73
	NOTE: Please see the following QuickSpecs for additional information: http://h18000.www1.hp.com/products/quickspecs/11041_na/11041_na.html NOTE: For additional information on HP Power Distribution Units including accessories please go to: www.hp.com/go/pdu.	
	Please see the UPS and PDU cable matrices on the HP Power Protection and Management page. Under Power Cords, click on the "HP Power Cord Matrix" link. That link will list cable descriptions, requirements, and specifications for UPS and PDU units. Please see the following link: www.hp.com/products/powercords.	

Additional Options

HP Rack Series	HP Rack 10000 G2 Series (Carbon/Graphite Metallic)	
	HP 10642 G2 Pallet Universal Rack	AF001A
	HP 10642 G2 Shock Universal Rack	AF002A
	HP 10642 G2 1200mm deep Shock Rack	AF092A
	HP 10647 G2 1200mm deep Shock Rack	AF094A
	NOTE: It is mandatory to use a shock pallet when shipping racks with equipment installed.	
	NOTE: Please see the QuickSpecs for additional information: http://h18000.www1.hp.com/products/quickspecs/12402_na/12402_na.html	
	NOTE: For additional information regarding Rack Cabinets and Telco Rack support, please see the following URL: http://www.hp.com/go/rackandpower.	
	NOTE: The increasing power of new high-performance processor technology requires increased cooling efficiency for rack-mounted servers. The 10000 Series Racks provide enhanced airflow for maximum cooling, allowing these racks to be fully loaded with servers using the latest processors.	
	CAUTION: If a third-party rack is used, observe the following additional requirements to ensure adequate airflow and to prevent damage to the equipment: Front and rear doors: If your 42U server rack includes closing front and rear doors, you must allow 830 square inches (5,350 sq cm) of hole evenly distributed from top to bottom to permit adequate airflow (equivalent to the required 64 percent open area for ventilation). Side: The clearance between the installed rack component and the side panels of the rack must be a minimum of 2.75 inches (7 cm).	
	CAUTION: Always use blanking panels to fill all remaining empty front panel U-spaces in the rack. This arrangement ensures proper airflow. Using a rack without blanking panels results in improper cooling that can lead to thermal damage.	
	NOTE: Quick deploy rail system provides tool-free support for racks with square or round mounting holes (including Compaq/HP 7000, 9000, 10000 G2 and HP series), with an adjustment range of 24" - 36". The ambidextrous cable management arm can be mounted on either the left or right side for improved cable management.	
HP Rack Options	Keyboards and Monitors	
	HP TFT7600 G2 KVM Console and Monitor (TFT7600 G2)	
	HP TFT7600 G2 KVM Console Rackmount Keyboard Monitor	AZ870A
	HP TFT7600 G2 KVM Console Rackmount Keyboard TAA Monitor	AZ885A
	NOTE: Please see the QuickSpecs for additional information: http://h18000.www1.hp.com/products/quickspecs/13731_na/13731_na.html	
	HP 1U Rackmount Keyboard with USB	
	HP 1U Rackmount Keyboard with USB	AG072A
	NOTE: Please see the QuickSpecs for additional information: http://h18000.www1.hp.com/products/quickspecs/12465_na/12465_na.html	
	HP Server Console Switches	
	HP Server Console 0x2x8 Port Analog Switch	AF616A
	HP Server Console 0x2x16 Port Analog Switch	AF617A
	NOTE: Please see the QuickSpecs for additional information: http://h18000.www1.hp.com/products/quickspecs/11834_na/11834_na.html	

Additional Options

	HP Server Console Switch G2 with Virtual Media & CAC	
	HP 0x2x16 KVM Server Console Switch G2 with Virtual Media CAC Software	AF618A
	HP 0x2x32 KVM Server Console Switch G2 with Virtual Media CAC Software	AF619A
	NOTE: Please see the QuickSpecs for additional information: http://h18000.www1.hp.com/products/quickspecs/13475_na/13475_na.html	
	HP IP Console Switch G2 with Virtual Media & CAC	
	HP 1x1Ex8 KVM IP Console Switch G2 with Virtual Media CAC Software	AF620A
	HP 2x1Ex16 KVM IP Console Switch G2 with Virtual Media CAC Software	AF621A
	HP 4x1Ex32 KVM IP Console Switch G2 with Virtual Media CAC Software	AF622A
	NOTE: Please see the QuickSpecs for additional information: http://h18000.www1.hp.com/products/quickspecs/13474_na/13474_na.html	
	Rack Kits	
	HP ML370G6 Tower to Rack Conversion Kit	515031-B21
HP USB and SD Options	HP USB 2-Button Optical Scroll Mouse	DC172B
	HP Standard USB Keyboard	DT528A#ABA
	HP 4GB Secure Digital High Capacity Flash Media Kit	580387-B21
	NOTE: Blank SD media device is supported for use with VMware and Citrix. SD media must be installed in the internal slot of the ProLiant server. Learn more at: http://www.hp.com/go/proliantvirtualization.	
	HP 2GB USB Flash Media Drive Key Kit	608447-B21
	NOTE: HP qualified blank USB key for use with HP ProLiant servers that support the VMware virtualization environment and other HP value-add software like SmartStart. HP recommends this industry standard USB flash device for use with VMware ESXi. USB device must be installed in the internal slot of the ProLiant server for use with VMware ESXi. Refer to HP VMware Getting Started Guide for installation instructions.	
HP Care Pack Services	**HP ProLiant ML370 G6 Service & Support Offerings**	
	Hardware Services On-site Service	
	HP 3 year 4 hour 13x5 ProLiant ML370/DL370 Hardware Support	U4528E
	HP 3 year 4 hour 24x7 ProLiant ML370/DL370 Hardware Support	U4529E
	Hardware Services 6-Hour Call to Repair On-site Service	
	HP 3 year 6 hour 24x7 Call to Repair ProLiant ML370/DL370 Hardware Support	U4530E
	Installation & Start-up Services	
	HP Install ProLiant ML370/DL370 Service	U4538E
	HP Startup ProLiant ML370/DL370 Service	U4539E
	Support Plus 24	
	HP 3 year Support Plus 24 Microsoft ProLiant ML370/DL370 Service	U4541E
	HP 3 year Support Plus 24 SuSE ProLiant ML370/DL370 Service	U6311E
	NOTE: For more information, customer/resellers can contact: http://www.hp.com/services/carepack.	

Additional Options

Smart Buy Care Pack Services	HP ProLiant ML370 G6 Service & Support Offerings	
	S-Buy 4-Hour Onsite Response, 13-Hour x 5-Day Coverage, 3 years	UE903E
	S-Buy 4-Hour Onsite Response, 24-Hour x 7-Day Coverage, 3 years	UE904E
	S-Buy 6-Hour Call to Repair, 24-Hour x 7-Day Coverage, 3 years	UM362E
	HP SBuy3y24x7 24hCTRProliantML/DL370HWSu	HZ762E
	HP ProLiant DL370 G6 Service & Support Offerings	
	S-Buy 4-Hour Onsite Response, 13-Hour x 5-Day Coverage, 3 years	UQ465E
	S-Buy 4-Hour Onsite Response, 24-Hour x 7-Day Coverage, 3 years	UQ466E
	S-Buy 6-Hour Call to Repair, 24-Hour x 7-Day Coverage, 3 years	UQ467E
	HP SBuy3y24x7 24hCTRProliantML/DL370HWSu	HZ762E

NOTE: Memory configurations listed do not apply to "Factory Integrated Models".

HP ProLiant DL370 G6 Models
HP ProLiant ML370 G6 Models
DDR3 memory population guidelines

For detailed memory configuration rules and guidelines, please use the Online DDR3 Memory Configuration Tool:
www.hp.com/go/ddr3memory-configurator

Some DIMM installation guidelines are summarized below:

- For servers with eighteen (18) memory slots:
  - There are three (3) channels per processor; six (6) channels per server
  - There are three (3) DIMM slots for each memory channel; eighteen (18) total slots
  - Memory channel 1 consists of the three (3) DIMMs that are closest to the processor
  - Memory channel 3 consists of the three (3) DIMMs that are furthest from the processor
- DIMM slots that are white should be populated first
- Do not mix Unbuffered memory (UDIMMs) with Registered memory (RDIMMs)
- Do not install DIMMs if the corresponding processor is not installed
- If only one processor is installed in a 2CPU system, only half of the DIMM slots are available
- To maximize performance, balance the total memory capacity between all installed processors
- It is not required, but it is recommended to load the channels similarly if possible
- If any Quad rank DIMMs are installed, all channels are limited to only 2 DIMMs per channel.
- You can only install two quad-rank DIMMs per channel
- You can only install two UDIMMs per channel; if available, the third slot in the channel must remain empty
- Populate DIMMs from heaviest load (quad-rank) to lightest load (single-rank) within a channel
- Heaviest load (DIMM with most ranks) within a channel goes furthest from the chipset
- For memory mirroring mode, channel 3 must be unpopulated. Channels 1 and 2 are populated identically
- For lock-step mode, channel 3 must be unpopulated. DIMMs in channels 1 and 2 will be installed in pairs. The paired slots will be 1,4; 2,5; 3;6 on a 3DPC system or 1,4; 2,5; on a 2DPC system
- Low Voltage DIMMs can only be used with the Intel® Xeon® processors 5600 series
- If mixing DIMM voltage is a requirement, please note that the DIMMs will run at 1.5V since all 1.35V are capable of supporting 1.5V operations

DIMM slot/capacity/populated speed table												
DIMM Type	Registered DIMMS (RDIMMs)									Unbuffered with ECC DIMMs (UDIMMs)		
DIMM Rank	Single Rank (1R)	Dual Rank (2R)					Quad Rank (4R)			Single Rank (1R)	Dual Rank (2R)	
DIMM Capacity	4G	2GB	4GB	8GB	8GB	16GB	4GB	16GB	32GB	1GB	2GB	4GB
DIMM Native Speed (MHz)	1333	1333	1333	1066	1333	1333	1066	1066	1066	1333	1333	1333
Voltage	LV/Std	Std	Std	Std	LV/Std	LV/Std	Std	Std	LV/Std	Std	Std	Std
	SLOTS THAT CAN BE POPULATED											
18 slot servers	18	18	18	18	18	18	12	12	12	12	12	12
	MAXIMUM CAPACITY (GB)											
	72	36	72	144	144	288	48	192	384	12	24	48

Memory

	POPULATED DIMM SPEED (MHz)											
1 DIMM Per Channel	1333	1333	1333	1066	1333	1333	1066	1066	1066	1333	1333	1333
2 DIMM Per Channel	1333*	1333*	1333*	1066	1333*	1066/ 1033**	800	800	800	1066	1066	1066
3 DIMM Per Channel	800	800	800	800	800	800***	n/a	n/a	n/a	n/a	n/a	n/a
* Supported with ROM update via ROM Based Setup Utility (RBSU) **2DPC: LV runs at 1066, Std voltage runs at 1333 ***3DPC: LV/Std voltage runs at 800												

NOTES:

- PC3-10600 DIMMs have a maximum speed of 1333MHz. PC3-8500 DIMMs have a maximum speed of 1066MHz
- Mixing DIMM speeds is allowed, but the system processor speed rules always override the DIMM capabilities
- If you do mix DIMM speeds, the memory bus will default to the minimum clock rate of all DIMMs in the system - even if the slower DIMM is on the other processor
- If you install 1x 1066MHz DIMM in channel 1 and 1x 1333MHz DIMM in channel 2, the maximum speed will be 1066MHz
- If you install 1x 1066MHz DIMM in channel 1 and 5x 1333MHz DIMMs with 1 DIMM Per Channel (DPC) in each of the other channels, the maximum speed will be 1066MHz
- If you install 3DPC in one channel (if applicable) and 1DPC in all other channels, you run at 800MHz
- Maximum memory speed will also depend on the processor
- References to the above MHz speeds are for the various speeds of DDR3 DIMMs; 1333 refers to DDR3-1333, etc.

DIMM slot and configuration diagrams

Basic memory slot & population diagram

- Population order; start with "A" first, "B" second, "C" third, etc.

18 DIMM SLOTS (9 per CPU node)					
	CPU1		CPU2		
	slot #	population order	slot #	population order	
Chnl 1	1	G	1	G	Chnl 1
	2	D	2	D	
	3	A	3	A	
Chnl 2	4	H	4	H	Chnl 2
	5	E	5	E	
	6	B	6	B	
Chnl 3	7	I	7	I	Chnl 3
	8	F	8	F	
	9	C	9	C	

Standard memory configuration (1 CPU model)

- 6GB, consisting of three (3) 2GB dual-rank PC3-10600 RDIMMs

Memory

	CPU1		CPU2		
	slot #	population order	slot #	population order	
Chnl 1	1	G; empty	1	G; empty	Chnl 1
	2	D; empty	2	D; empty	
	3	A; 2GB DIMM	3	A; empty	
Chnl 2	4	H; empty	4	H; empty	Chnl 2
	5	E; empty	5	E; empty	
	6	B; 2GB DIMM	6	B; empty	
Chnl 3	7	I; empty	7	I; empty	Chnl 3
	8	F; empty	8	F; empty	
	9	C; 2GB DIMM	9	C; empty	

Standard memory plus optional memory (1 CPU model)

- 54GB, consisting of three (3) 2GB RDIMMs plus six (6) 8GB RDIMMs
  - 3x 2GB dual-rank PC3-10600 RDIMMs
  - 6x 8GB dual-rank PC3-10600 or PC3-8500 RDIMMs

	CPU1		CPU2		
	slot #	population order	slot #	population order	
Chnl 1	1	G; 8GB DIMM	1	G; empty	Chnl 1
	2	D; 8GB DIMM	2	D; empty	
	3	A; 2GB DIMM	3	A; empty	
Chnl 2	4	H; 8GB DIMM	4	H; empty	Chnl 2
	5	E; 8GB DIMM	5	E; empty	
	6	B; 2GB DIMM	6	B; empty	
Chnl 3	7	I; 8GB DIMM	7	I; empty	Chnl 3
	8	F; 8GB DIMM	8	F; empty	
	9	C; 2GB DIMM	9	C; empty	

Standard memory replaced with optional memory (1 CPU model)
RDIMM maximum configuration

- 72GB, consisting of nine (9) 8GB dual-rank PC3-10600 or PC3-8500 RDIMMs

Memory

	CPU1		CPU2		
	slot #	population order	slot #	population order	
Chnl 1	1	G; 8GB DIMM	1	G; empty	Chnl 1
	2	D; 8GB DIMM	2	D; empty	
	3	A; 8GB DIMM	3	A; empty	
Chnl 2	4	H; 8GB DIMM	4	H; empty	Chnl 2
	5	E; 8GB DIMM	5	E; empty	
	6	B; 8GB DIMM	6	B; empty	
Chnl 3	7	I; 8GB DIMM	7	I; empty	Chnl 3
	8	F; 8GB DIMM	8	F; empty	
	9	C:8GB DIMM	9	C:empty	

UDIMM maximum configuration (1 CPU model)

- 24GB, consisting of six (6) 4GB dual-rank PC3-10600 UDIMMs

	CPU1		CPU2		
	slot #	population order	slot #	population order	
Chnl 1	1	G; empty	1	G; empty	Chnl 1
	2	D; 4GB DIMM	2	D; empty	
	3	A; 4GB DIMM	3	A; empty	
Chnl 2	4	H; empty	4	H; empty	Chnl 2
	5	E; 4GB DIMM	5	E; empty	
	6	B; 4GB DIMM	6	B; empty	
Chnl 3	7	I; empty	7	I; empty	Chnl 3
	8	F; 4GB DIMM	8	F; empty	
	9	C; 4GB DIMM	9	C; empty	

Standard memory replaced with optional memory (2 CPU model)
RDIMM maximum configuration

- 384GB, consisting of twelve (12) 32GB Quad-Rank PC3-8500 RDIMMs

Memory

	CPU1		CPU2		
	slot #	population order	slot #	population order	
Chnl 1	1	G; empty	1	G; empty	Chnl 1
	2	D; 32GB DIMM	2	D; 32GB DIMM	
	3	A; 32GB DIMM	3	A; 32GB DIMM	
Chnl 2	4	H; empty	4	H; empty	Chnl 2
	5	E; 32GB DIMM	5	E; 32GB DIMM	
	6	B; 32GB DIMM	6	B; 32GB DIMM	
Chnl 3	7	I; empty	7	I; empty	Chnl 3
	8	F; 32GB DIMM	8	F; 32GB DIMM	
	9	C; 32GB DIMM	9	C; 32GB DIMM	

UDIMM maximum configuration (2 CPU model)

- 48GB, consisting of twelve (12) 4GB dual-rank PC3-10600 UDIMMs

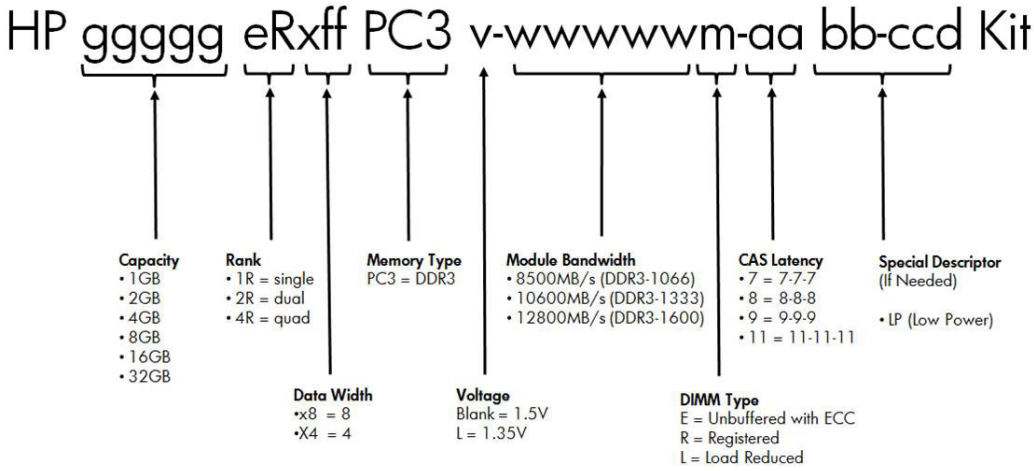
	CPU1		CPU2		
	slot #	population order	slot #	population order	
Chnl 1	1	G; empty	1	G; empty	Chnl 1
	2	D; 4GB DIMM	2	D; 4GB DIMM	
	3	A; 4GB DIMM	3	A; 4GB DIMM	
Chnl 2	4	H; empty	4	H; empty	Chnl 2
	5	E; 4GB DIMM	5	E; 4GB DIMM	
	6	B; 4GB DIMM	6	B; 4GB DIMM	
Chnl 3	7	I; empty	7	I; empty	Chnl 3
	8	F; 4GB DIMM	8	F; 4GB DIMM	
	9	C; 4GB DIMM	9	C; 4GB DIMM	

NOTE: Capacity references are rounded to the common Gigabyte values.

- 1GB = 1024MB
- 2GB = 2048MB
- 4GB = 4096MB
- 8GB = 8192MB
- 16GB = 16384MB

DDR3 memory options part number decoder

Memory



Following are memory options available from HP:

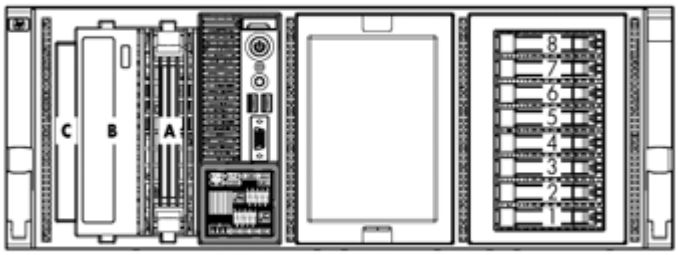
HP Memory	Registered DIMMs (RDIMMs)	
	HP 2GB (1x2GB) Dual Rank x8 PC3-10600 (DDR3-1333) Registered CAS-9 Memory Kit	500656-B21
	HP 4GB (1x4GB) Dual Rank x4 PC3-10600 (DDR3-1333) Registered CAS-9 Memory Kit	500658-B21
	HP 4GB (1x4GB) Quad Rank x8 PC3-8500 (DDR3-1066) Registered CAS-7 Low Power Memory Kit	500660-B21
	HP 4GB (1x4GB) Single Rank x4 PC3-10600 (DDR3-1333) Registered CAS-9 Memory Kit	593339-B21
	HP 4GB (1x4GB) Single Rank x4 PC3L-10600 (DDR3-1333) Registered CAS-9 Low Power Memory Kit NOTE: Low Voltage DIMMs can only be used with Intel® Xeon® processor 5600 series processors.	604504-B21
	HP 8GB (1x8GB) Dual Rank x4 PC3-10600 (DDR3-1333) Registered CAS-9 Memory Kit	500662-B21
	HP 8GB (1x8GB) Dual Rank x4 PC3L-10600 (DDR3-1333) Registered CAS-9 Low Power Memory Kit NOTE: Low Voltage DIMMs can only be used with Intel® Xeon® processor 5600 series processors.	604506-B21
	HP 16GB (1x16GB) Quad Rank x4 PC3-8500 (DDR3-1066) Registered CAS-7 Memory Kit	500666-B21
	HP 16GB (1x16GB) Dual Rank x4 PC3L-10600 (DDR3-1333) Registered CAS-9 LP Memory Kit	627812-B21
	HP 32GB (1x32GB) Quad Rank x4 PC3L-8500 (DDR3-1066) Registered CAS-7 LP Memory Kit	627814-B21
	Unbuffered with ECC DIMMs (UDIMMs)	
	HP 1GB (1x1GB) Single Rank x8 PC3-10600 (DDR3-1333) Unbuffered CAS-9 Memory Kit	500668-B21
	HP 2GB (1x2GB) Dual Rank x8 PC3-10600 (DDR3-1333) Unbuffered CAS-9 Memory Kit	500670-B21

Memory

HP 4GB (1x4GB) Dual Rank x8 PC3-10600 (DDR3-1333) Unbuffered CAS-9 Memory Kit	500672-B21
HP 4GB (1x4GB) Dual Rank x8 PC3L-10600 (DDR3-1333) Unbuffered CAS-9 Low Power Memory Kit	619488-B21

NOTE: All DDR3 memory option kits consist of one DIMM per kit. For detailed memory configuration rules and guidelines, please use the Online DDR3 Memory Configuration Tool: www.hp.com/go/ddr3memory-configurator.
NOTE: Kits described as LP include Low Power DIMMs. For more information on ProLiant Energy Efficient Features, see: www.hp.com/go/proliant-energy-efficient.

Storage

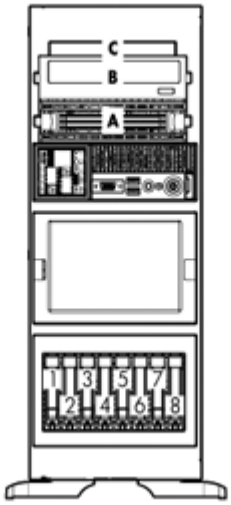


A Removable media bay

B SATA DVD-ROM Drive (Standard in all BTO Models)

C Optical Drive (blank)

1-8 Eight SFF SAS/SATA HDD Bays (Standard in all BTO Models)

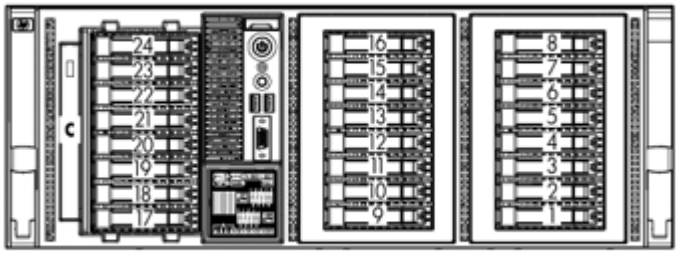


A Removable media bay

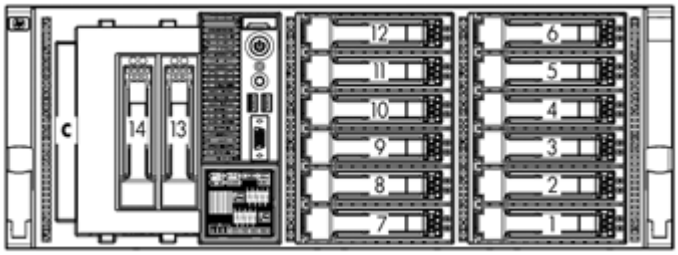
B SATA DVD-ROM Drive (Standard in all BTO Models)

C Optical Drive (blank)

1-8 Eight SFF SAS/SATA HDD Bays (Standard in all BTO Models)



1-24 Twenty-four small form factor (SFF) hot-plug drive bays to support Serial-attached SCSI (SAS) and Serial ATA (SATA) drives with optional drive cages (up to three 8 SFF drive cage can be installed)



1-14 Fourteen large form factor (LFF) hot-plug drive bays to support Serial-attached SCSI (SAS) and Serial ATA (SATA) drives with optional drive cages

Drive Support

	Quantity Supported	Position Supported	Controller
Removable Media			
Half-Height SATA DVD-ROM Optical Drive	Up to 2	A, B	Integrated IDE
Half-Height SATA DVD RW Optical Drive	Up to 2	A, B	Integrated IDE
HP Slim 12.7mm SATA DVD-ROM Optical Drive	1 NOTE: Also please use if the 3 drive cage is populated	C	Integrated IDE
HP Slim 12.7mm SATA DVD-RW Optical Drive	1 NOTE: Also please use if the 3 drive cage is populated	C	Integrated IDE

Hard Drives

NOTE: The components of a storage subsystem (e.g. the drive, the HBA/controller, firmware, and the server backplane) should operate at the same data transfer rate or the system bandwidth will be negotiated down to an acceptable level for all components.

NOTE: Hard drives have either a one year or three year warranty; refer to the specific hard drive QuickSpecs for details.

SAS Hot Plug SFF (2.5-inch) Enterprise (ENT) Drives

	Quantity Supported	Position Supported	Controller
900GB 6G SAS 10K 600GB 6G SAS 10K 450GB 6G SAS 10K 300GB 6G SAS 10K 300GB 6G SAS 15K 146GB 6G SAS 15K 72GB 6G SAS 15K	Up to 24	1-8 1-24	HP Smart Array P800/512 BBWC Controller HP Smart Array P212/Zero Memory Controller HP Smart Array P212/ 256 MB Controller HP Smart Array P410/256 MB Controller HP Smart Array P410/512 MB BBWC Controller HP Smart Array P410/512 MB FBWC Controller HP Smart Array P410/1G FBWC Controller HP Smart Array P411/256 MB Controller HP Smart Array P411/512 MB BBWC Controller HP Smart Array P411/512 MB FBWC Controller

			HP Smart Array P411/1G FBWC Controller
			HP Smart Array P812/1G FBWC Controller

SAS Hot Plug LFF (3.5-inch) Enterprise (ENT) Drives

	Quantity Supported	Position Supported	Controller
600GB 6G SAS 15K 450GB 6G SAS 15K 300GB 6G SAS 15K	Up to 14	1-14	HP Smart Array P800/512 BBWC Controller HP Smart Array P212/Zero Memory Controller HP Smart Array P212/ 256 MB Controller HP Smart Array P410/256 MB Controller HP Smart Array P410/512 MB BBWC Controller HP Smart Array P410/512 MB FBWC Controller HP Smart Array P410/1G FBWC Controller HP Smart Array P411/256 MB Controller HP Smart Array P411/512 MB BBWC Controller HP Smart Array P411/512 MB FBWC Controller HP Smart Array P411/1G FBWC Controller HP Smart Array P812/1G FBWC Controller

SAS Hot Plug SFF (2.5-inch) Midline (MDL) Drives

	Quantity Supported	Position Supported	Controller
1TB 6G SAS 7.2K 500GB 6G SAS 7.2K	Up to 14	1-14	HP Smart Array P800/512 BBWC Controller HP Smart Array P212/Zero Memory Controller HP Smart Array P212/ 256 MB Controller HP Smart Array P410/256 MB Controller HP Smart Array P410/512 MB BBWC Controller HP Smart Array P410/512 MB FBWC Controller HP Smart Array P410/1G FBWC Controller HP Smart Array P411/256 MB Controller HP Smart Array P411/512 MB BBWC Controller HP Smart Array P411/512 MB FBWC Controller HP Smart Array P411/1G FBWC Controller HP Smart Array P812/1G FBWC Controller

SAS Hot Plug LFF (3.5-inch) Midline (MDL) Drives

	Quantity Supported	Position Supported	Controller
3TB 6G SAS 7.2K 2TB 6G SAS 7.2K 1TB 6G SAS 7.2K	Up to 14	1-14	HP Smart Array P800/512 BBWC Controller HP Smart Array P212/Zero Memory Controller HP Smart Array P212/ 256 MB Controller HP Smart Array P410/256 MB Controller HP Smart Array P410/512 MB BBWC Controller HP Smart Array P410/512 MB FBWC Controller HP Smart Array P410/1G FBWC Controller HP Smart Array P411/256 MB Controller HP Smart Array P411/512 MB BBWC Controller

			HP Smart Array P411/512 MB FBWC Controller
			HP Smart Array P411/1G FBWC Controller
			HP Smart Array P812/1G FBWC Controller

SATA Hot Plug SFF (2.5-inch) Midline (MDL) Drives

	Quantity Supported	Position Supported	Controller
1TB 3G SATA 7.2K	Up to 24	1-8	HP Smart Array P800/512 BBWC Controller
500GB 3G SATA 7.2K		1-24	HP Smart Array P212/Zero Memory Controller
			HP Smart Array P212/ 256 MB Controller
			HP Smart Array P410/256 MB Controller
			HP Smart Array P410/512 MB BBWC Controller
			HP Smart Array P410/512 MB FBWC Controller
			HP Smart Array P410/1G FBWC Controller
			HP Smart Array P411/256 MB Controller
			HP Smart Array P411/512 MB BBWC Controller
			HP Smart Array P411/512 MB FBWC Controller
			HP Smart Array P411/1G FBWC Controller
			HP Smart Array P812/1G FBWC Controller

SATA Hot Plug LFF (3.5-inch) Midline (MDL) Drives

	Quantity Supported	Position Supported	Controller
3TB 3G SATA 7.2K	Up to 14	1-14	HP Smart Array P800/512 BBWC Controller
2TB 3G SATA 7.2K			HP Smart Array P212/Zero Memory Controller
1TB 3G SATA 7.2K			HP Smart Array P212/ 256 MB Controller
500GB 3G SATA 7.2K			HP Smart Array P410/256 MB Controller
			HP Smart Array P410/512 MB BBWC Controller
			HP Smart Array P410/512 MB FBWC Controller
			HP Smart Array P410/1G FBWC Controller
			HP Smart Array P411/256 MB Controller
			HP Smart Array P411/512 MB BBWC Controller
			HP Smart Array P411/512 MB FBWC Controller
			HP Smart Array P411/1G FBWC Controller
			HP Smart Array P812/1G FBWC Controller

SATA Hot Plug LFF (3.5-inch) Entry (ETY) Drives

	Quantity Supported	Position Supported	Controller
250GB 3G SATA 7.2K	Up to 14	1-14	HP Smart Array P800/512 BBWC Controller
160GB 3G SATA 7.2K			HP Smart Array P212/Zero Memory Controller
			HP Smart Array P212/ 256 MB Controller
			HP Smart Array P410/256 MB Controller
			HP Smart Array P410/512 MB BBWC Controller
			HP Smart Array P410/512 MB FBWC Controller
			HP Smart Array P410/1G FBWC Controller
			HP Smart Array P411/256 MB Controller

			HP Smart Array P411/512 MB BBWC Controller
			HP Smart Array P411/512 MB FBWC Controller
			HP Smart Array P411/1G FBWC Controller
			HP Smart Array P812/1G FBWC Controller

SATA Hot Plug 2.5" Enterprise Mainstream Solid State Drives

	Quantity Supported	Position Supported	Controller
400GB 3.0G SATA SSD	Up to 24	1-8	HP Smart Array P212/Zero Memory Controller
200GB 3.0G SATA SSD		1-24	HP Smart Array P212/ 256 MB Controller
120GB 3.0G SATA SSD			HP Smart Array P410/256 MB Controller
100GB 3.0G SATA SSD			HP Smart Array P410/512 MB BBWC Controller
60GB 3.0G SATA SSD			HP Smart Array P410/512 MB FBWC Controller
			HP Smart Array P410/1G FBWC Controller
			HP Smart Array P411/256 MB Controller
			HP Smart Array P411/512 MB BBWC Controller
			HP Smart Array P411/512 MB FBWC Controller
			HP Smart Array P411/1G FBWC Controller
			HP Smart Array P812/1G FBWC Controller

SATA Hot Plug 3.5" Midline (MDL) Solid State Drives

	Quantity Supported	Position Supported	Controller
400GB 3.0G SATA	Up to 14	1-14	HP Smart Array P212/Zero Memory Controller
200GB 3.0G SATA			HP Smart Array P212/ 256 MB Controller
100GB 3.0G SATA			HP Smart Array P410/256 MB Controller
			HP Smart Array P410/512 MB BBWC Controller
			HP Smart Array P410/512 MB FBWC Controller
			HP Smart Array P410/1G FBWC Controller
			HP Smart Array P411/256 MB Controller
			HP Smart Array P411/512 MB BBWC Controller
			HP Smart Array P411/512 MB FBWC Controller
			HP Smart Array P411/1G FBWC Controller
			HP Smart Array P812/1G FBWC Controller

6G SAS Hot Plug Enterprise Performance Solid State Drives

	Quantity Supported	Position Supported	Controller
200GB 6G SAS SLC SFF	Up to 24	1-8	HP Smart Array P212/Zero Memory Controller
400GB 6G SAS SLC SFF		1-24	HP Smart Array P212/ 256 MB Controller
			HP Smart Array P410/256 MB Controller
			HP Smart Array P410/512 MB BBWC Controller
			HP Smart Array P410/512 MB FBWC Controller
			HP Smart Array P410/1G FBWC Controller
			HP Smart Array P411/256 MB Controller
			HP Smart Array P411/512 MB BBWC Controller
			HP Smart Array P411/512 MB FBWC Controller

			HP Smart Array P411/1G FBWC Controller
			HP Smart Array P812/1G FBWC Controller

6G SAS Hot Plug Enterprise Mainstream Solid State Drives

	Quantity Supported	Position Supported	Controller
800GB 6G SAS MLC SFF	Up to 24	1-8	HP Smart Array P212/Zero Memory Controller
400GB 6G SAS MLC SFF		1-24	HP Smart Array P212/ 256 MB Controller
200GB 6G SAS MLC SFF			HP Smart Array P410/256 MB Controller
			HP Smart Array P410/512 MB BBWC Controller
			HP Smart Array P410/512 MB FBWC Controller
			HP Smart Array P410/1G FBWC Controller
			HP Smart Array P411/256 MB Controller
			HP Smart Array P411/512 MB BBWC Controller
			HP Smart Array P411/512 MB FBWC Controller
			HP Smart Array P411/1G FBWC Controller
			HP Smart Array P812/1G FBWC Controller

External Storage

	Quantity Supported	Position Supported	Host Controller or Adapter
70 Modular Smart Array	Up to 2	External	HP Smart Array P212/256 MB Controller
	Up to 4		HP Smart Array P800/512 BBWC Controller
			HP Smart Array P411/256 MB Controller
			HP Smart Array P411/512 MB BBWC Controller
			HP Smart Array P411/512 MB FBWC Controller
			HP Smart Array P411/1G FBWC Controller
			HP Smart Array P812/1G Flash Backed Cache Controller
D2600 Disk Enclosure	Up to 4	External	HP Smart Array P212/256 MB Controller
	Up to 8		HP Smart Array P800/512 BBWC Controller
			HP Smart Array P411/256 MB Controller
			HP Smart Array P411/512 MB BBWC Controller
			HP Smart Array P411/512 MB FBWC Controller
			HP Smart Array P411/1G FBWC Controller
			HP Smart Array P812/1G Flash Backed Cache Controller
D2700 Disk Enclosure	Up to 2	External	HP Smart Array P212/256 MB Controller
	Up to 4		HP Smart Array P800/512 BBWC Controller
			HP Smart Array P411/256 MB Controller
			HP Smart Array P411/512 MB BBWC Controller
			HP Smart Array P411/512 MB FBWC Controller
			HP Smart Array P411/1G FBWC Controller
			HP Smart Array P812/1G Flash Backed Cache Controller

Storage

Tape and Disk Backup

NOTE: For the complete range of tape drives, autoloaders, libraries and media, including the internal fitting models, see: http://www.hp.com/go/tape. For the complete range of D2D Backup Systems see: http://www.hp.com/go/d2d. For the complete range of RDX drives and media see: http://www.hp.com/go/rdx. For hardware and software compatibility of HP disk and tape backup products see: http://www.hp.com/go/connect.

	Position Supported	Controller	Part Number
HP SCSI Tape Drives LTO-1 Ultrium 232 LTO-2 Ultrium 448 LTO-3 Ultrium 920 LTO-3 Ultrium 960 LTO4 Ultrium 1760 LTO-4 Ultrium 1840 DAT 40 DAT 72 DAT 160	Internal or External	HP U320e SCSI Dual Channel Host Bus Adapter NOTE: Please check the full compatibility information at: http://www.hp.com/go/connect	AH627A
HP USB Tape Drives DAT 40 DAT 72 DAT 160 DAT 320	Internal or External	USB 2.0 Port	N/A
HP USB Rack Mount Kits 1U USB Rack-Mount Kit	External	USB 2.0 Port	USB 2.0 Port
HP SAS Tape Drives DAT 160 DAT 320 LTO-2 Ultrium 448 LTO-3 Ultrium 920 LTO-4 Ultrium 1760 LTO-4 Ultrium 1840 LTO-5 Ultrium 3000 LTO-5 Ultrium 3280	Internal or External	HP Smart Array P212/ZM 1-ports Int/1-ports Ext PCIe x8 SAS Controller NOTE: Please check the full compatibility information at: http://www.hp.com/go/connect	462828-B21
HP SAS Rack Mount Kits 1U Rack-Mount Kit 3U Rack-Mount Kit	External	HP Smart Array P212/ZM 1-ports Int/1-ports Ext PCIe x8 SAS Controller NOTE: Please check the full compatibility information at: http://www.hp.com/go/connect	462828-B21
HP SCSI Tape Autoloaders DAT 72x10 Autoloader 1/8 G2 Autoloader	External	HP U320e SCSI Dual Channel Host Bus Adapter NOTE: Please check the full compatibility information at: http://www.hp.com/go/connect	AH627A

Storage

HP SCSI Tape Libraries MSL2024 MSL4048 MSL8096 MSL6000	External	HP U320e SCSI Dual Channel Host Bus Adapter NOTE: Please check the full compatibility information at: http://www.hp.com/go/connect	AH627A
HP SAS Tape Autoloaders and Libraries 1/8 G2 Autoloader MSL2024 MSL4048 MSL8096	External	HP Smart Array P212/ZM 1-ports Int/1-ports Ext PCIe x8 SAS Controller NOTE: Please check the full compatibility information at: http://www.hp.com/go/connect	462828-B21
HP Fibre Channel Tape Libraries MSL2024 MSL4048 MSL8096 MSL6000	External	Please consult the EBS connectivity matrix at: http://www.hp.com/go/ebs for connectivity information and the supported Fibre Channel HBAs shown in this QuickSpecs.	N/A
HP USB RDX Removable Disk Backup System RDX160 RDX320 RDX500 RDX750 RDX1TB	Internal or External	USB 2.0 port	N/A
HP D2D Backup Systems, iSCSI D2D2500i D2D4000i	External	Embedded Network Controller. If the server requires a hardware iSCSI initiator, the QLogic QLA4050 Host Bus Adapter is recommended.	N/A
HP D2D Backup Systems, Fibre Channel D2D4000fc	External	Direct server attach is not supported, requires connection via SAN fabric. See: http://www.hp.com/go/connect	N/A

Power Specifications

HP 460W Common Slot Gold Hot Plug Power Supply Kit							
Part Number	503296-B21						
Input Voltage Range (V rms)	100 to 240						
Frequency Range (Nominal) (Hz)	50/60						
Nominal Input Voltage (Vrms)	100	120	200	208	220	230	240
Maximum Rated Output Wattage Rating	460	460	460	460	460	460	460
Nominal Input Current (A rms)	5.5	4.5	2.6	2.5	2.4	2.3	2.2
Maximum Rated Input Wattage Rating (Watts)	526	520	505	505	503	503	503
Maximum Rated VA (Volt-Amp)	548	542	527	527	524	524	524
Efficiency (%)	87.5	88.5	91	91	91.5	91.5	91.5
Power Factor	0.97						
Leakage Current (mA)	0.42	0.50	0.83	0.87	0.92	0.96	1.00
Maximum Inrush Current (A peak)	30						
Maximum Inrush Current duration (mS)	20						
Maximum British Thermal Unit Rating (BTU-Hr)	1794	1773	1725	1725	1715	1715	1715

HP 750W Common Slot Gold Hot Plug Power Supply Kit							
Part Number	512327-B21						
Input Voltage Range (V rms)	100 to 240						
Frequency Range (Nominal) (Hz)	50/60						
Nominal Input Voltage (Vrms)	100	120	200	208	220	230	240
Maximum Rated Output Wattage Rating	750	750	750	750	750	750	750
Nominal Input Current (A rms)	8.9	7.4	4.3	4.1	3.9	3.7	3.6
Maximum Rated Input Wattage Rating (Watts)	857	847	824	824	820	820	820
Maximum Rated VA (Volt-Amp)	894	884	859	854	854	854	
Efficiency (%)	87.5	88.5	91	91	91.5	91.5	91.5
Power Factor	0.97						
Leakage Current (mA)	0.42	0.50	0.83	0.87	0.92	0.96	1.00
Maximum Inrush Current (A peak)	30						
Maximum Inrush Current duration (mS)	20						
Maximum British Thermal Unit Rating (BTU-Hr)	2925	2892	2812	2812	2797	2797	2797

Power Specifications

HP 1200W Common Slot Silver Hot Plug Power Supply Kit							
Part Number	500172-B21						
Input Voltage Range (V rms)	100 to 240						
Frequency Range (Nominal) (Hz)	50/60						
Nominal Input Voltage (Vrms)	100	120	200	208	220	230	240
Maximum Rated Output Wattage Rating	800	900	1200	1200	1200	1200	1200
Nominal Input Current (A rms)	9.7	9.0	7.0	6.8	6.4	6.1	5.9
Maximum Rated Input Wattage Rating (Watts)	930	1034	1348	1348	1348	1348	1348
Maximum Rated VA (Volt-Amp)	970	1079	1406	1406	1406	1406	1406
Efficiency (%)	86	87	89	89	89	89	89
Power Factor	0.97						
Leakage Current (mA)	0.42	0.50	0.83	0.87	0.92	0.96	1.00
Maximum Inrush Current (A peak)	30						
Maximum Inrush Current duration (mS)	20						
Maximum British Thermal Unit Rating (BTU-Hr)	3174	3530	4600	4600	4600	4600	4600

To review typical system power ratings use the Active Answers HP Power Advisor which is available via the online tool located at URL: www.hp.com/go/proliant-energy-efficient or www.hp.com/go/hppoweradvisor

To drill down to calculators:
- Click on: "ProLiant Servers"
- Click on the Server of interest. Example: DL370 G6 or ML370 G6
- Click on: "Power Calculator" link. (You may need to scroll down to see it)

System Unit	Tower Dimensions (H x W x D) (with bezel)	18.52 x 9.75 x 29.12 in (47.04 x 24.77 x 73..96 cm)	
	Rack Dimensions (H x W x D) (with bezel)	6.88 x 19.03 x 27.53 in (17.48 x 48.34 x 69.93 cm)	
	Tower Weight (approximate)	Maximum (All hard drives, power supply, and processor installed)	96.34 lb (43.70 kg)
		Minimum (one hard drive, power supply, and processor installed)	66.14 lb (30.00 kg)
	Rack Weight (approximate)	Maximum (All hard drives, power supply, and processor installed)	85.69 lb (38.87 kg)
		Minimum (one hard drive, power supply, and processor installed)	55.12 lb (25.00 kg)
	Input Requirements (per power supply)	Rated Line Voltage	90 - 132 VAC, 180 - 264 VAC
		Rated Input Current	7.5A (at 100 VAC), 3.8A (at 200 VAC)
		Rated Input Frequency	47 to 63 Hz
		Rated Input Power	980W (at 100 VAC) 1035W (at 120 VAC) 1170W (at 240 VAC)
	BTU Rating	Maximum	460W - 1773 BTU / hr (at 120 VAC), 1715 (at 240 VAC) 750W - 2892 BTU / hr (at 120 VAC), 2797 (at 240 VAC) 1200W - 3530 BTU / hr (at 120 VAC), 4600 (at 240 VAC)
	Power Specifications	To review typical system power ratings use the HP Power Advisor which is available via the online tool located at URL: www.hp.com/go/proliant-energy-efficient - Click on the system of interest. Example: DL370 G6 or ML370 G6 - Follow the instructions of the next screens.	
	Power Supply Output (per power supply)	Rated Steady-State Power	460 W (at 100 VAC)
		Maximum Peak Power	460 W (at 200 VAC) 460 W (at 100 VAC) 460 W (at 200 VAC) NOTE: See Power Supply Specifications tables for complete details on 460W PSU and optional 750W and 1200W Power Supply Options.

System Inlet Temperature	Operating	10° to 35°C (50° to 95°F) at sea level with an altitude derating of 1.0°C per every 305 m (1.8°F per every 1000 ft) above sea level to a maximum of 3050 m (10,000 ft), no direct sustained sunlight. Maximum rate of change is 10°C/hr (18°F/hr). The upper limit may be limited by the type and number of options installed. System performance may be reduced if operating with a fan fault or above 30°C (86°F).
	Non-operating	-30° to 60°C (-22° to 140°F). Maximum rate of change is 20°C/hr (36°F/hr).
Relative Humidity (non-condensing)	Operating	10 to 90% relative humidity (Rh), 28°C (82.4°F) maximum wet bulb temperature, non-condensing.
	Non-operating	10 to 95% relative humidity (Rh), 38.7°C (101.7°F) maximum wet bulb temperature, non-condensing.
Altitude	Operating	3048 m (10,000 ft). This value may be limited by the type and number of options installed. Maximum allowable altitude change rate is 457 m/min (1500 ft/min).
	Non-operating	9144 m (30,000 ft). Maximum allowable altitude change rate is 457 m/min (1500 ft/min).
Acoustic Noise	Listed are the declared A-Weighted sound power levels (LWAd) and declared average bystander position A-Weighted sound pressure levels (LpAm) when the product is operating in a 23°C ambient environment. Noise emissions were measured in accordance with ISO 7779 (ECMA 74) and declared in accordance with ISO 9296 (ECMA 109).	
	Idle	
	L WAd	4.6 B for 1P Non-Redundant; 4.9 B for 2P Redundant
	L pAm	28 dB for 1P Non-Redundant; 31 dB for 2P Redundant
	Operating	
	L WAd	4.7 B for 1P Non-Redundant; 5.0 B for 2P Redundant
	L pAm	29 dB for 1P Non-Redundant; 32 dB for 2P Redundant
	NOTE: The Listed sound levels apply to standard shipping configurations. Additional options may result in increased sound levels.	
Emissions Classification (EMC)	FCC Rating	Class B
	Normative Standards	CISPR 22; EN55022; EN55024; FCC CFR 47, Pt 15; ICES-003; CNS13438; GB9254; K22;K24; EN 61000-3-2; EN 61000-3-3; EN 60950-1; IEC 60950-1

NOTE: Product conformance to cited product specifications is based on sample (type) testing, evaluation, or assessment. This product or family of products is eligible to bear the appropriate compliance logos and statements.

Smart Array P410i Controller	Dimensions	Embedded
	Disk Drive and Enclosure Interface - Transfer rate	6Gb/s SAS (Serial Attached SCSI) 3Gb/s SATA (Serial ATA)
	SAS Connectors	2 internal 4X connectors
	Cache Memory Speed	DDR2-800MHz with 40 or 72-bit wide bus
	Server Interface	x4 PCIe 2.0 provides 2GB/s maximum bandwidth
	SAS Speed	8 6Gb/s SAS links provide 4.8GB/s maximum bandwidth
	Cache Memory	Zero Memory RAID has no cache memory 40-bit 256MB ECC protected cache (battery upgrade available) 72-bit 512MB BBWC or 72-bit 512MB and 1G FBWC Zero Memory, Up to 2 logical volumes (8 physical drives)
	Logical Drives Supported	Up to 64 logical drives with cache
	Host Memory Addressing	64-bit, supporting greater than 4GB server memory space
	RAID Support	RAID 6, 6+0 (Advanced Data Guarding) NOTE: RAID 6, 6+0 can be enabled with one of the following combinations: • 256 MB cache, Battery kit and Smart Array Advanced Pack License key option upgrades • 512 MB BBWC/FBWC and Smart Array Advanced Pack License key option upgrades • 1G FBWC and Smart Array Advanced Pack License key option upgrades RAID 5, 5+0 (Distributed Data Guarding) NOTE: A minimum or 256 MB cache is required to enable RAID 5, 5+0 support RAID 1+0 (Striping & Mirroring) RAID 0 (Striping), RAID 1 (Mirroring)

Technical Specifications

NC375i Integrated Quad Port Gigabit Server Adapter	Network Interface	10Base-T/100Base-TX/1000Base-TX	
	Compatibility	IEEE 802.3 10Base-T IEEE 802.3ab 1000Base-T IEEE 802.3u 100Base-TX IEEE 802.3ad 1000Base-TX IEEE 802.1p 100Base-TX IEEE 802.1q 100Base-TX	
	Data Transfer Method	PCI Express, four lanes (x4)	
	Controller	Qlogic/NetXen NX3031	
	Network Transfer Rate	10Base-T (Full-Duplex)	20 Mb/s
		100Base-TX (Full-Duplex)	200 Mb/s
		1000Base-TX (Full-Duplex)	2000 Mb/s
	Connector	RJ-45	
	Cable Support	10Base-T	Categories 3, 4 or 5 UTP up to 328 ft (100 m)
		100Base-TX	Category 5 or higher UTP; up to 328 ft (100 m)
		1000Base-TX	Category 5 or higher UTP; up to 328 ft (100 m)

HP Integrated Lights-Out 2 (iLO 2) integrated on system board	Architecture	32-bit PCI-based health and remote management ASIC
	Processor	32-bit RISC processor core running at 66MHz
	Upgradeability	Option firmware upgradeable via Flash ROM
	Operating System Support	Microsoft Windows Server 2008 Standard Edition (32bit and 64bit) Microsoft Windows Server 2008 Enterprise Edition (32bit and 64bit) Microsoft Windows Server 2003 and Windows Server 2003 R2, and Windows Server 2003 for Extended Systems Standard Edition, Enterprise Edition Red Hat Enterprise Linux 5.4 (32bit and 64bit) SUSE Linux Enterprise Server 11 (32bit and 64bit) SUSE Linux Enterprise Server 10 (32bit and 64bit) VMware ESX 4.0 VMware ESX 3.5.0 Microsoft Windows XP Professional Edition Microsoft Windows Vista Business and Ultimate Editions Red Hat Enterprise Linux Desktop 5.00 SUSE Linux Enterprise Desktop 11 SUSE Linux Enterprise Desktop 10
	Client Browser Support	Microsoft Internet Explorer 7 Microsoft Internet Explorer 6 Firefox 3.5 (on supported Windows and Linux systems) Firefox 3.0 (on supported Windows and Linux systems)
	Command Line Support	Telnet, Secure Shell and serial port access Secure Socket Layer Secure Shell version 2 (Password and certificate)

	Security	Advanced Encryption Standard (AES) and Triple Data Encryption Standard (3DES) on browser, CLP and XML scripting interface RC4 encryption of video
	Directory Support Services	Active Directory v1.0 (Windows 2003)
	Driver Support	Health Driver (HP ProLiant iLO 2 Management Controller Driver) iLO Management Channel Interface Driver
	Management protocols supported	SNMP 2, IPMI 2.0 (KCS interface), DMTF Server Management Command Line Protocol Specification (SM CLP), DMTF Web Services Management Specification (WS Management)
Environment-friendly Products and Approach	End-of-life Management and Recycling	Hewlett-Packard offers end-of-life HP product return, trade-in, and recycling programs in many geographic areas. For trade-in information, please go to: http://www.hp.com/go/green. To recycle your product, please go to: http://www.hp.com/go/green or contact your nearest HP sales office. Products returned to HP will be recycled, recovered or disposed of in a responsible manner. The EU WEEE directive (2002/95/EC) requires manufacturers to provide treatment information for each product type for use by treatment facilities. This information (product disassembly instructions) is posted on the Hewlett Packard web site at: http://www.hp.com/go/green. These instructions may be used by recyclers and other WEEE treatment facilities as well as HP OEM customers who integrate and re-sell HP equipment.

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For hard drives, 1GB = 1 billion bytes. Actual formatted capacity is less.